A Project

Presented to the faculty of the Department of Teacher Education
California State University, Sacramento

Submitted in partial satisfaction of the requirements for the degree of

MASTER OF ARTS

in

Education

(Curriculum and Instruction)

by

Carley D. Grassinger

SPRING 2013
NINTH GRADE HEALTH: A SUPPLEMENTARY GUIDE TO INTEGRATING HYBRID TECHNOLOGY INTO THE CURRICULUM

A Project

by

Carley D. Grassinger

Approved by:

___________________________, Committee Chair
Rita M. Johnson, Ed.D.

___________________________
Date

ii
Student: Carley D. Grassinger

I certify that this student has met the requirements for the format contained in the University format manual, and that this project is suitable for shelving in the Library and credit is to be awarded for the Project.

__________________________, Department Chair
Susan Heredia, Ph.D.  

Date

Department of Teacher Education
Abstract

of

NINTH GRADE HEALTH: A SUPPLEMENTARY GUIDE TO INTEGRATING HYBRID TECHNOLOGY INTO THE CURRICULUM

by

Carley D. Grassinger

Current health issues, such as drug/alcohol abuse, obesity and Type 2 Diabetes are on the rise with adolescents in the United States. Studies show a link between students’ health and their academic performance. Teaching a meaningful Health course to high school students can be challenging. The review of literature suggests there are several factors that are of importance when considering how to create a successful Health curriculum, and at the forefront of this change is an integration of technology into the course.

This curriculum project is designed to show educators on how to successfully implement technology, specifically in a hybrid format into a unit on substance abuse. Specifically, students will learn how to be successful in a Health course, while using the unique hybrid platform. Using online research to create projects, participate in
discussions, and learn through simulation, students will develop a deeper understanding of substance abuse and how it can impact their health and their lives.

______________________________, Committee Chair
Rita M. Johnson, Ed. D.

______________________________
Date
ACKNOWLEDGEMENTS

I would like to thank my husband, JR, who supported me from day one when I decided to leave a career in advertising for a more fulfilling one in education. Thank you for always allowing me to pursue my dreams.

My baby Eva, who is the driving force behind my desire to get the most I can out of life. I want you to know that anything you dream is possible and I will always support you.

My mom, who taught me that you need to reach for whatever it is that you want and that hard work comes with big rewards.

My teachers, who while I was growing up, showed me what fun learning could and should be. Without those amazing educators in my life, I would have never chosen this career path for myself.

All of my colleagues, who through the years, have taught me more than I ever could have learned in a credential program. From classroom management skills, to sharing lessons, I truly believe that those people I have been blessed to work with have shaped the teacher that I am today.

Lastly, my students, both past and present, who keep me on my toes every single day. Thank you for making each and every day a surprise and keeping me forever young.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Acknowledgements</th>
<th>vi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>1. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>1</td>
</tr>
<tr>
<td>Statement of Problem</td>
<td>1</td>
</tr>
<tr>
<td>Significance of Problem</td>
<td>2</td>
</tr>
<tr>
<td>Anticipated Outcomes</td>
<td>4</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>4</td>
</tr>
<tr>
<td>Methodology</td>
<td>5</td>
</tr>
<tr>
<td>Limitations</td>
<td>6</td>
</tr>
<tr>
<td>Organization of Project</td>
<td>6</td>
</tr>
<tr>
<td>2. REVIEW OF LITERATURE</td>
<td>7</td>
</tr>
<tr>
<td>Why Health Science is Important</td>
<td>7</td>
</tr>
<tr>
<td>Traditional Versus New Health Courses</td>
<td>11</td>
</tr>
<tr>
<td>Motivation and High School Students</td>
<td>12</td>
</tr>
<tr>
<td>Learning Styles</td>
<td>16</td>
</tr>
<tr>
<td>Technology in the Classroom</td>
<td>18</td>
</tr>
<tr>
<td>Hybrid Courses</td>
<td>23</td>
</tr>
<tr>
<td>Conclusion</td>
<td>24</td>
</tr>
</tbody>
</table>
3. METHODOLOGY .................................................................................................................. 27
   Setting .................................................................................................................................. 27
   Participants ............................................................................................................................ 28
   Design ................................................................................................................................... 28
   Implementation ....................................................................................................................... 28
   Assessment ............................................................................................................................. 29

4. SUMMARY ............................................................................................................................. 32
   Recommendations .................................................................................................................. 33
   Appendix A. Background of Researcher ................................................................................. 35
   Appendix B. Ninth Grade Health: A Supplementary Guide to Integrating Hybrid Technology into the Curriculum ................................................................. 37
   References ............................................................................................................................. 123
Chapter 1

INTRODUCTION

Purpose of the Study

The purpose of this study is to explore how a high school Health course may be enriched through the use of technology, particularly a hybrid course. Under normal circumstances, the Health Science course is scheduled over one semester, rather than an entire year. Health educators often find themselves forced to compact lessons, and omit others entirely due to time constraints. In addition, since this particular subject is currently not tested on the state standardized test, there is not a huge emphasis on quality implementation of the state content standards. This study endeavors to discover how a hybrid course may allow Health teachers to delve deeper into their curriculum and enrich their lessons, while maintaining value even with the use of a tool like technology.

Statement of Problem

What if there were a course that high school students were required to take, that taught them about topics such as depression, suicide, nutrition, drugs, alcohol, disease prevention, and sexual health? Don’t topics such as those previously listed contain some of the most valuable information that people should know when entering the real world as adults? The material learned in a Health course is so pertinent to a teenager’s future that it serves as a vital piece of a students’ high school graduation requirement.
In the state of California, Health Science is taken most often in a student’s ninth grade year, over the period of one semester. A major issue that Health teachers encounter is that there is just not enough time in one semester to complete the standards required by the subject. Health educators are fighting a constant battle of meeting a deadline and trying to maintain value in a course.

An additional problem is that if students are either unable to take it with their classmates due to scheduling constraints, transferring of schools, or the fact that they didn’t pass it the first time, the student is faced with the option of either taking it during summer school (which is a dwindling entity due to budget cuts), or joining classmates that could be up to four years younger. An age gap this great may affect their overall class experience. High school students who take the course in their older years also run the risk of being exposed to risky behaviors prior to receiving the guidance and information they need in Health class in order to help them to make the proper decisions.

**Significance of Problem**

Health educators face the overwhelming task of delivering information targeting the immense list of content areas found in the Healthy People 2010 objectives in one short semester rather than an entire year-long course. Steele (2011) noted the importance of health and fitness education for high school students in her research when she stated, “…[O]besity is a growing concern for all ages, and it is particularly relevant for adolescents because they are at a stage in which they may be establishing habits that will last a lifetime” (p. 72). A hybrid course would allow
health educators to meet all required content standards in one semester, through the use of face-to-face class time, and technology.

The next generation of students is evolving, and with evolution must come a change in the way we educate them. Current studies suggest that “online learning has emerged as an alternative to traditional face to face instruction in American K-12 education” (Kerr, 2011, p. 28). The U.S. Department of Education (2009) took this notion further when it reported “…a meta-analysis of online learning studies… appeared to confirm that a blend of face to face teacher time with online curriculum produced better outcomes than either face to face time alone or online learning alone” (as cited in Schulte, 2011, p. 25). Furthermore, it is noted that, “the flexibility of asynchronous learning is one of the most frequently mentioned advantages of online learning” (Podoll & Randle, 2005, p. 17).

Today’s high school students require options and flexibility when attempting to meet their abundant and often rigorous high school graduation requirements. To meet that need, online learning and hybrid courses are becoming more popular, with the emphasis shifting from traditional delivery of instruction, to a greater use of technology.

The purpose of this work is to create a hybrid Health Science curriculum, which will enhance and enrich the current ninth grade Health Science course. This curriculum will allow students to meet their Health high school graduation requirement, while embracing the various learning styles of students. In addition,
technology is the way of the future and its integration into any course will better equip our students with 21st century skills.

**Anticipated Outcomes**

This project will result in the creation of a hybrid Health Science course that will better serve the needs of high school students, create a model of learning which is ideal for teenagers who may not have the self-discipline to manage coursework on their own time, and advise teachers on how to ensure equity and access to technology when conducting a hybrid course.

**Definition of Terms**

*Asynchronous learning*: Student centered teaching method that uses online resources to facilitate information sharing outside the constraints of time and place among a network of people.

*Content Standards*: Designed to encourage the highest achievement of every student, by defining the knowledge, concepts, and skills that students should acquire at each level.

*Healthy People 2010*: A program of nationwide health promotion and disease prevention goals set by the United States Department of Health and Human Services.

*Hybrid course*: Combines face-to-face interaction such as in-class discussions, active group work, and live lectures with typically web-based educational technologies such as online course cartridges, assignments, discussion boards, and other web assisted tools.
Synchronous learning: A group of people learning the same things at the same time in the same place.

Methodology

The intent of this research is to explore ways in which students and teachers can experience a more successful and enriching Health Science course. Through the use of a hybrid course, which will include both synchronous and asynchronous learning, the standards will be covered through a non-traditional means of instruction. The project will permit the opportunity to observe and question participants, including students and teachers, about their experience with the new curriculum. Piloting the hybrid course in Fall 2012, I plan to take a 4-week unit and turn it into a hybrid course that would consist of both online and in class assignments, discussions, and assessments.

This supplemental guide will assist current and future Health Science teachers in the process of using a hybrid course to satisfy both the teachers and student’s needs, and more importantly meet the current content standards, so students do not get behind on their credits towards graduation.

In addition to solving the problem, integrating more technology into the current curriculum will also engage more students and teach students 21st century skills, preparing them for their future endeavors. Skills learned from taking hybrid courses also carry over well into corporations and professional employees. More specifically, “when online learning experiences are properly structured, they can significantly enhance a student’s ability to learn and retain information related to
complex topics found in the health sciences” (McFarlin, Weintraub, Breslin, Carpenter. & Strohacker, 2011, p. 278). For this reason, an integration of technology is justified and necessary.

**Limitations**

Limitations for this project may include an educator seeking to use this curriculum while not having access to an online program where they are able to interact with their students and post class material. For example, my current Northern California school district has adopted an interactive web tool for teachers, Edmodo. Secondly, in order to be equitable, teachers would need to ensure that all students have access to computers as well as the internet.

**Organization of Project**

Chapter 1 will include the Introduction, Statement of Purpose, Statement of Problem, Rationale, and Organization of Project. Chapter 2 will provide a Review of Literature, which will focus on current research involving Health Science, learning styles and motivational factors among teens, and technology. Chapter 3 will focus on the Methodology of the project.

Chapter 4 provides a summary of the project and recommendations for implementation of the Curriculum Unit. Finally, References, Appendices, and the Project itself will conclude this paper.
Chapter 2

REVIEW OF LITERATURE

The purpose of this project is to provide secondary classroom educator’s access to a user friendly Health Science unit. A project such as this will guide teachers through the process and the integration of hybrid instruction into their current Health course. The project encompasses a supplemental guide which provides a snapshot of how a unit such as this could be implemented in the classroom, and used as a platform to convert the entire semester long course into a hybrid course.

The following review of literature outlines current research completed regarding the importance of Health Science as a high school graduation requirement, as well as its overall effect on the individual student for life. Also discussed is how the Health course has evolved over time. Additionally, the review takes into account current research on technology and hybrid courses as used in an educational setting. Research on the use of technology as a method of instruction and its effectiveness with various learning styles as well as motivational factors for teen learners is also discussed. This section concludes with a summary of key points in the chapter.

Why Health Science is Important

A Health course is vital for the future of students and their well-being. Although often thought of by some as just an elective, this class aims to provide students with proper decision making skills. Skills such as these will be practiced and applied throughout their entire lifetimes. When considering the importance of Health in schools, Herbert and Lohrmann (2011) stated that, “The ultimate goal of school
health education is to empower students by teaching them the life skills they need to sustain healthy choices” (p. 258). These life skills are defined by Hebert and Lohrmann as “abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life” (p. 258). These are abilities that should not just be learned from others; rather they ought to be a part of a larger more significant curriculum.

Further adding to the positive, long lasting effects that a health class has on the student, there are also implications that it positively impacts those students while concurrently taking the course. Steele (2011) further explains these effects when she asserts that, “Improved health and fitness for adolescents is also associated with social and personal factors such as self-esteem, decreased stress and anxiety, fewer mood disorders, and a general sense of well-being, which are all critical variables particularly for this age group” (p. 72). It is the teacher’s hope that when taught correctly, learning these concepts may result in a person making healthier choices throughout life. Lastly, Hebert and Lohrmann (2011), proclaim that an effective Health Science curriculum includes, “building personal and social competence and self-efficacy by addressing skills, using strategies designed to personalize information and engage students” (p. 259). As it can be understood, a quality Health class is vital to an individual’s personal success in life.

In addition to the long lasting life skills that are learned in Health, there is also the issue of the overall health of the student. Current startling statistics show that the United States needs to attempt to combat the obesity rate and other preventable
diseases. These efforts must begin by connecting with adolescents in schools, and families in their communities. According to London and Castrechini (2011),

Childhood obesity rates have tripled since the 1970’s. The most recent figures indicate that 30.1% of US children aged 2-19 years have body mass index of (BMI) high enough to classify them as overweight, 15.5% have BMI that place them as obese, and 10.9% are severely obese. (p. 400)

It is also speculated that this will be the first generation of youth where their life expectancy will be less than that of their parents. If this country doesn’t begin to invest in the health education of our youth and families, it is going to result in an epidemic so large, that it will be irreparable.

Even more frightening is that London and Castrechini found that “there is small but growing literature studying the links between obesity or physical fitness and academic achievement” (p. 400). This is particularly alarming because of the current state of health of the youth in this country. If students who are in better health are more successful in the classroom, then why not do provide every opportunity possible to optimize that success and make it accessible for all?

According to Steele (2011), “Health and fitness are currently critical issues in our country with astonishing statistics on increasing obesity rates, related diseases, and predicted reduced life-span figures” (p. 72). In addition, Steele noted the importance of health and fitness education for high school students in her research when she stated, “Adolescence is a critical period for health and fitness because often individuals set their lifetime habits during this time, which will mean potentially even
further reduction in obesity and diseases in the future” (p. 73). Due to the fact that students are more at risk than ever for developing obesity fueled diseases such as type 2 diabetes, it is pertinent that teens are equipped with the proper information to try to protect them from this epidemic.

Although some may voice concerns that a health class may not have a lasting effect on teenagers, and therefore is not an essential part of a high school course load, Steele (2011) combats these arguments by noting that, “Even with teenagers, there is evidence of a link between physical activity, healthy weight, and improved health, including fewer incidences of heart problems, high blood pressure, bone diseases, and diabetes” (p. 72). Furthermore, a Health class provides an environment where students can ask questions and become comfortable with sensitive issues.

Most importantly, in addition to the effect on the individual student, a Health course can also have a positive outcome on our society. Steele (2011) continues with her argument for health and fitness classes when she states that, “In addition to the individual benefits and reduction of problems, health and fitness can also contribute to a positive economic outcome in terms of health care in our society” (p. 73). For those who cannot recognize value in a health class in our schools, maybe the link between a person’s health and our society will provide sufficient evidence. When asked, many adults may recall their Health class experience to be very brief, lacking depth, and not memorable whatsoever. Now is the time to create the change, and construct a course that exceeds current standards and is suitable for today’s student.
Traditional Versus New Health Courses

Currently, in the United States, education budgets are bound tight with little room to give. Essential classes such as Health, Physical Education, and enriching electives are some of the first on the chopping block when school districts are attempting to resolve how to balance their budgets. Presently, certain school districts are even electing to save money by allowing students to take classes like Health and Physical Education online through private universities for credit. Courses such as these leave out any face-to-face contact with instructors or peers, which foster activity and discussion.

The existing health course most likely looks very different than it once did even just ten short years ago. A strong shift towards integrating more technology into the health curriculum has taken place, although the implementation differs at each school site. Technology has made its presence known in some health courses and it is proving to be successful. McFarlin et al. (2011) state that “The current focus of health education research is to examine how the utilization of instructional technology can be used to effectively and efficiently achieve the demonstration of key learning objectives” (p. 278). Furthermore, research has revealed that, “one major advantage of online learning is that it has redefined the role of the health educator such that they are a facilitator at the center of an active learning environment rather than the instructor of the content” (McFarland, et al., 2011, p. 278). It appears that Health education is aiming to be at the forefront of change when it comes to education.
More importantly, it is essential to note that several changes need to be made to this country’s current educational system. Most schools have been operating using the old traditional model for far too long and results are proving that the United States is falling behind other countries when it comes to education. An answer for this is to begin to move away from the traditional model of direct instruction and venture towards alternative teaching methods which will increasingly motivate students.

**Motivation and High School Students**

One of the most important factors to consider when developing a new course of any kind is the effect it will have on the motivation of the student population. Even more specifically, the effect that a course which integrates technology may have on the student is an issue that needs to be addressed, especially when that student is a teen. Unfortunately, as Murphy and Rodriguez-Manzanares (2009) have discovered, motivation in distance education has been studied mostly at the postsecondary level with few studies having been conducted at the high school level. For this reason, it is necessary to understand what motivates students, and begin to hypothesize whether or not these positive motivational factors could be easily interwoven into a hybrid curriculum.

An article posted on the website, Center for Talent Development may provide decent insight about what type of motivational factors need to be present in order for a high school student to have success in a distance education course. Citing the article, “Education at a Distance” (1998), it suggested that students must be self-starters and
must have the time for the course. However, this article speaks primarily on gifted and talented students enrolling in online classes for enrichment purposes.

Although many may wonder why motivation needs to be measured, it is important to take into account that there are many additional variables when one uses technology as a mode of instructional delivery. According to Murphy and Rodriguez-Manzanares (2009), “Motivation is one of the most significant components of learning in any educational context. It has been identified as a determinant of student satisfaction and perceived learning outcomes in distance education environments” (para. 1). Wang and Reeves (2006) agree with this statement and add that, “when students are more engaged in learning, they will more fully understand new knowledge and be more flexible in their use of it” (p. 170). Thus, student engagement will lead to student motivation and finally, result in student learning, which is the ultimate goal.

The challenging imminent task is how to properly select lessons that will successfully motivate the students. Wang and Reeves, agree that identifying appropriate motivational strategies is not simple, and implementing them is even more difficult, especially in the high school classroom (2006, p. 170). Most teachers would most likely agree that one of the most difficult parts of their job is finding that magical “thing” which completely engrosses, engages, and motivates their students from start to finish.

A course which uses technology should not be viewed as an easier one, but in contrast, one which will require students to move beyond what they are taught in the
Wang and Reeves (2006) mention that engaging students in activities that challenge their abilities as learners may enhance their intrinsic motivation (p. 171). In order to do so the skill level of the learner and the challenge of the activity must match one another. The aforementioned researchers provide a worthy solution to the above concern through their assertion that when this match is made, something referred to as “flow” occurs. Csikszentmihalyi (1991) describes it as “the holistic sensation that people feel when they act with total involvement” (p. 171). Furthermore, they believe that if the challenge is too easy, the learner will become bored. On the contrary, if it is viewed as too difficult, a learner may be more likely to fail, become frustrated, and stop learning all together (p. 171). The latter statement is what educators want to avoid which is why planning a lesson which engages and motivates all students is difficult.

An additional factor of motivation that may be considered is that of personal investment. When our students feel personally invested in their learning, it tends to result in a sense of ownership and lead to greater success. Nelson and DeBacker (2008) refer to this as Maehr’s theory of personal investment. “Maehr proposes that the meaning a learner creates for an activity determines whether time and energy will be invested in that activity” (p. 171). Therefore, the students’ perception of the assignment is the deciding factor or motivation.

Some negative characteristics of distance education that may have an effect on students’ motivation include; the fact that students cannot ask questions and get an immediate answer, recognize verbal cues from the teacher, or connect with their peers. This lack of connection and relationship with peers can be directly tied to the students’
motivation. According to Nelson and DeBacker (2008), research suggests a “positive relationship between how involved students perceive their classmates to be in classroom activities and end-of-semester grades” (p. 174). Furthermore, they stated that “individual student engagement was positively related to the engagement level of other members in their classroom peer network” (p. 174). For these reasons, the loss of peer climate in the classroom, due to more of the course being learned online may lead to decreased success and motivation.

In addition, students enrolled in a hybrid course may have less supervision than they are used to and therefore may be off task, resulting in procrastination. Skills such as time management that often come with age and time, may not be developed and could result in a student being less successful in this type of educational setting. On the contrary, a course such as this may teach the student to take responsibility for their own learning. Motivating young distance education students poses several challenges. Murphy and Rodriguez-Manzanares (2009) state that, “Young students might have less autonomy and independence than adult students as well as less intrinsic motivation to help them persist in their studies” (p. 2). Factors such as the aforementioned ought to be greatly considered before implementing this curriculum into the classroom. Lastly, “When asked to address which factors determined a student’s success as an online learner, all teachers agreed that self-motivation, self-discipline, and time management were most critical” (Podoll & Randle, 2005, p. 18). Beyond seeking out lessons which will motivate their students to learn, educators also need to keep another factor in mind, their individual learning styles.
Learning Styles

When an educator deliberates how they want to implement a lesson, another important consideration is the learning style of their audience members. In the case of this project, where technology will be an integral part of the curriculum, a student’s learning style should be of particular focus.

It appears that infusing technology into the curriculum is linked to a positive effect on the learner. Although Kumrow (2005) noted that present research suggests that when compared to more traditional methods of learning, such as entirely direct instruction, “hybrid sections had significantly higher end of course grades and a significantly higher favorable rating of their method of instruction” (p. 140), it is important to remember that educators need to use more than just end of the course grades to evaluate whether or not their students actually learned.

Munro and Rice-Munro (2004) claimed that if a certain topic is important enough for a student to learn, then it needs to be presented to them in a variety of ways. They also noted that there is no one single instructional method that reaches all learners. Because of this, teachers need to be willing to present the essential information in a manner which will reach all learners. Traditional means of teaching often lack this approach, which is why the addition of technology to a class may benefit some students that aren’t otherwise reached.

It must be understood that creating an online course should entail more than just uploading PowerPoints, linking information to various websites, and posting assignments and grades. The course should aim to deepen the communication between
the students through use of discussion and discovery. Munro and Rice-Munro (2004) believe that “Well designed e-learning courses provide optional instructional approaches for each topic and let the learner use one or more of them to increase knowledge and skills and to practice application” (p. 30). Many teachers are beginning to move towards using more technology in their classrooms, but are lacking the tools to use it effectively.

Saeed, Yang, and Sinnappan (2009) state that the “adoption level of emerging web technologies is on the rise in academic settings. However, a major obstacle in the practice of web-based instruction is the limited understanding of learners’ characteristics and perceptions about technology use” (p. 98). The shift from the more traditional method of instruction to web-based learning has changed how teachers interact with their students. A teacher needs to be aware of the student’s preference of lesson delivery and learning style.

It is also important to consider a well-designed online or hybrid course before exposing students to this type of learning. Research has shown that the most effective online teaching strategies include setting clear expectations, project-based design, flexibility, meaningful curriculum, and rich interactive collaboration between students and teachers (Weiner, 2003).

Furthermore, although it does have its benefits, online learning is not for every learner. It has been determined that students who enjoy technology, have involved parents, enjoy non-academic activities, and are visual learners tend to be more suited for online courses. In addition, it should be noted that introverted students with
positive attitudes tend to have more success in self-paced courses (Roblyer & Marshall, 2003).

It is obvious that the pupils of today are vastly dissimilar from that of their predecessors. Their learning styles indicate that they are more flexible and able to accommodate a variety of teaching methods (Saeed, 2009, p. 105). Through their research, Saeed et al. (2009) discovered that “students preferred to use both synchronous and asynchronous communication tools in their academic communication” (p. 105). These findings reveal how the learning styles of students today are much more flexible than they once were. Furthermore it can be determined that, “Today’s students are ready to experience new technologies in their study routines and are willing to collaborate using multiple communication channels” (p. 105). With this in mind, it is time to move towards more creative teaching methods which includes the integration of technology into the classroom.

**Technology in the Classroom**

Online learning undeniably has a place in a Health classroom. A curriculum such as the one created for this project will infuse technology into the present Health Science curriculum in order to create a hybrid course, which satisfies the California Content Standards. Dawley (2010) provided the following information regarding the growth of a presence of online learning in school districts across the United States when she stated, “Online learning is growing at the rapid rate of 30 percent annually” and “according to a Sloan Consortium survey, 75 percent of school districts offer online or blended courses” (para. 3).
Though there may be concerns about the effectiveness of such courses it is important to note that, Saeed et al. (2009) reported that the “web-based virtual learning environment was suitable for various learner types as no significant differences were found in their grade achievements” (p. 106). It appears that online learning as several positive implications. As Dawley stated, “Online learning is a strategy aimed at closing achievement gaps, improving student achievement, increasing graduation rates, and expanding the availability of high-quality teachers to all students” (para. 1).

It must be noted that, “Today’s students are part of the net generation, born after the invention of the first computer” (McFarlin et al., 2011, p. 279). This predominant shift in exposure to technology at such a young age creates an entirely different type of learner. These learners are very unique and can be described with the following key characteristics: “driven by commitment, social and team oriented, experiential, and multitask learners” (McFarlin et al., 2011, p. 279). Because of the skills that the next generation student possesses, traditional courses may not always engage them at the highest level.

Although research suggests the flexibility of asynchronous classes is deemed as a good thing and provides students with the opportunity to balance their own responsibilities (Podoll & Randle, 2005), it is important to note that much of the research has taken place in college coursework, rather than a high school classroom. Another issue that is of concern is the lack of access to technology. When an online course was piloted in South Dakota, problems such as Internet connections, the need to access specific software programs, and compatibility were all discussed (Podoll &
Many positives can come from the use of technology in the classroom. For example, the skills learned in learning environments such as these can transfer well to corporations and professional employees (McFarlin et al., 2011, p. 278). The demand and needs of employees in today’s workforce is now requiring new talents, with experience using technology being at the top of employer’s lists when looking for new hires.

A study conducted by South Dakota’s Rapid City Academy uncovered both strengths and weaknesses of an online course. The courses were developed to provide the school’s diverse population of students with some flexibility when it came to their learning. Some students were seeking to enrich their already full load of courses, while others needed to catch up with their graduating class.

The study reported by Podoll and Randall (2005) asserted that teachers found these courses to have many positive effects on students. It appeared that, “Students who may not normally shine within a traditional classroom may do better in virtual classrooms” (p. 18). In addition, it allowed for “student’s opinions to be presented without interruption” (p. 18). Providing an opportunity for every student to have a voice and to shine in the classroom is certainly a reason to encourage the implementation of online courses at schools.

Dissimilarly, through the previous study, Podoll and Randall (2005) also discovered that the online courses had their flaws. Teachers and students both
expressed concern over computer system failure, and mentioned it as a major disadvantage of online learning. “Students especially noted system freezes and crashes that caused the loss of not only assignments, but also the loss of time spent completing the work and rebooting or repairing computers” (p. 18). Additionally, teachers noted a lack of connection to students as another disadvantage. Teachers stated that, “Some students need that sense of being connected to both the teacher and their classmates” (p. 18).

Another example of a study representing how technology is already being used in a high school classroom can be found in Michigan, where students are required to fulfill a mandated twenty-hour online learning graduation requirement. Lincoln (2010) alleged that through exploration of this online requirement, students would be able to, “readily recognize that not all Internet sites are created equal and that their evaluation of information quality will be an integral part of the online research process” (p. 29). These skills echo the views of McFarlin et al. (2009), who also believe that online learning presents learners with many talents needed for the student’s future. Lincoln quantifies such skills as those that would meet the Standards for the 21st-Century Learner. As Lincoln (2010) noted, in her study the American Association of School Librarians (2007) found that “learning is enhanced by opportunities to share and learn with others” and that “students need to develop skills in sharing knowledge and learning with others, both in face-to-face situations and through technology” (p. 3).

The importance of technology in the classroom is now evident, but equity in the classroom is still a concern that should be addressed. Kerr (2011) suggests that
“teachers must consider student technological access (including Internet connection speed) as they develop online courses” (p. 29). If students are not offered similar opportunities to access the course, then they are being set up to fail. To eliminate this issue Kerr recommends schools to consider providing a place for students to complete their online work that is free of distraction, and has access to the necessary materials needed.

Another concern of Kerr’s (2011) that was realized when working online with students is that there seemed to be a severe misuse of grammar most likely due to the fact that students are accustomed to writing texts and emails in their own shortened language on a daily basis. To allow for the most success in an online course, Kerr (2011) outlined several “best practices” for teachers to follow when teaching such courses. Based on research, some of these practices include; providing timely and thorough feedback, providing students with opportunities for choice, including models of typical discussions responses and final products, including rubrics, using social networking, and ensuring that students are aware of the technology requirements needed for success in the course.

The above research has proven that technology does indeed have a place in the high school classroom. However, the extent in which it is used is still to be determined. My suggestion is to use a hybrid course which would encompass the best of both worlds, by means of synchronous and asynchronous instruction.
Hybrid Courses

The future of education is shifting towards the use of more technology. According to Poirier (2010),

the U.S. Department of Education in 2009 indicated that hybrid instruction is among the fastest growing enrollment in higher education. This meta-analysis project identified more than 1,000 empirical studies and concluded that students who took all or part of their instruction online performed better, on average, than those taking the same course through face-to-face instruction. (p. 28)

In a K-12 setting, a complete elimination of face to face instruction and access to a teacher may not be the answer. Doering (2006), states that, “One trend in online education is the utilization of hybrid learning environments” (p. 198). Furthermore, they explain that, “The goal of hybrid learning is to improve the educational experience for students by joining together the best features of in-class teaching with the best features of online learning to promote active independent learning and reduce class seat time” (p. 198). The drive for this project is to determine how a hybrid course can enhance a Health Science class through the use of hybrid technology.

Currently in the United States, hybrid courses are not being thoroughly explored at the high school level, however a few schools have begun to implement this style of learning. There are two different ways to approach hybrid learning. The first example requires that students are taking classes at a school through the traditional face-to-face format, and are concurrently taking additional courses online outside of
school. The second option requires the student to attend classes in a normal school setting where teachers are facilitators of the course. Such course is enhanced through means of technology, but the face-to-face time is not completely diminished (Doering, 2006, p. 198). The sample unit featured in this project will be following the model of the second option listed above.

An example of a high school that appears to be having success with the implementation of the hybrid model can be found at Carpe Diem, a public charter school. The principal Rick Ogston, stated, “Our kids love it because they’re sick of sitting in a class that they either don’t understand or don’t need. It’s like Goldilocks. It was either too fast or too slow” (Schulte, 2011, p. 24). This method of instruction also allows students the opportunity to stay on pace with their peers if they are sick or out of town. Students aren’t the only ones who are praising the concept of hybrid learning in their classroom, teachers are on board as well. When asked about her experience with hybrid teaching Poirier (2010), stated “that the hybrid model provides the tools for me to create engaging and worthwhile courses…By leveraging technology tools with the more traditional classroom structure, you are able to create a dynamic learning environment” (p. 28). It appears hybrid technology provides students exposure to the best of both worlds when it comes to learning.

Conclusion

This review of literature has investigated many aspects of health, student motivation and learning styles, and technology use in the classroom. This project is designed for ninth grade students who are at a turning point in their lives. This is the
age where adolescents are forming their lifelong habits and beginning to learn to make
decisions for themselves. Research has even begun to suggest that there is a link
between a student’s level of health and their academic achievement.

Although research suggests the importance of a Health course at the high
school level, unfortunately budget cuts and schedule constraints often force this class
to be pushed to the side. A recent shift in technology has changed the dynamic of the
traditional Health course and it is essential that none of the pertinent information in the
curriculum is lost with this change. This project aspires to address this change in the
format of the class, while keeping the value of each lesson in tact with thoughtful and
enriching lessons.

Before addressing the shift in the delivery of the course curriculum, educators
need to determine whether or not this type of class would work for the typical high
school student. Motivation and learning styles, particularly when it comes to online
classes must has scarcely been studied, but the results are somewhat promising.
Students are most successful in technology related courses when they are engrossed in
the lessons and exhibit qualities such as self-starters and proper time management
skills. The good news is that student’s performance in online or hybrid courses appears
to be in line with that of a traditional classroom setting.

A student’s learning style is not necessarily synonymous with their level of
motivation. It can be determined that online learning is not for everyone. Students who
need immediate feedback or thrive in a more hands on, social environment may not
enjoy an online formatted class, even if they are motivated to do well. In the end, the
most successful learners are those who are active in their learning, not just going through the motions to earn the grade. These factors need to be thought through before a student was enrolled in this hybrid class.

The number of online classes currently being offered to high school students has grown immensely over the past few years. A change such as this one suits the next generation of learners well, since they have grown up using and relying heavily upon technology. A hybrid course, which occurs when a student experiences both online and face-to-face learning, may prove to be the best of both worlds for learners of this generation.
Chapter 3

METHODOLOGY

The purpose of the project is to create an easy to use resource for secondary teachers of health education, while providing an opportunity to expand and enrich the current curriculum through the use of technology. Teachers can select which lessons they feel will best suit their student’s needs and fit their timeframe. This resource is attached as Appendix B.

The project, located in the Appendix B, consists of approximately 20 health education lessons, specifically pertaining to a unit on drugs, alcohol, and tobacco. The lessons are projected to cover a four week time span in which the teacher and students will immerse themselves in the hybrid learning experience through the guidance of this project. These lessons are also in line with the National and California state standards in Health Education.

The first step in the creation of this project was to review current literature covering issues regarding Health in education. Additionally, research on learning styles, motivational factors, and technology use in the classroom was considered and helped to lay the groundwork for the direction of this project.

Setting

This unit was originally designed to be implemented in a regular ninth grade classroom setting. However, lessons could easily be modified to meet the learning needs of special needs students without much change.
Participants

This project was created for ninth grade students, specifically in a Northern California school district. This district services students of various populations including low socio-economic, full-inclusion, minority groups, as well as GATE. It is expected that students have a minimal background in health education, since students are required to take a nine-week health course in the seventh grade.

Design

This curriculum unit was written using the California Health Education Content Standards for California Public Schools, Kindergarten through Grade Twelve adopted in March of 2008. The lessons also take into the consideration Health People 2020 which was launched in December of 2010. Lastly, Common Core Standards will be given attention, as California is currently in the process of adopting them. Computers are necessary to conduct the lessons. Students will need access to the internet and computer processing programs such as Word, PowerPoint, and Publisher to complete their assignments. The curriculum is textbook independent and intended to supplement the course textbook, in this case Glencoe Health. However, it is possible that the teacher could easily modify the lessons to fit their available text.

Implementation

The four week curriculum unit is designed in a manner in which the teacher can take the drug, alcohol, and tobacco unit and implement it using a hybrid platform. Each lesson is designed to be approximately 30-45 minutes long and will be presented with specific materials and objectives. If a teacher enjoys the hybrid method of
teaching, he or she could then choose to adopt this method for other units throughout the semester.

The lessons begin with an introduction to tobacco, specifically focusing on a history of consumption and short and long term effects. Students will be required to use the internet to view various print and video anti-tobacco advertisements. After viewing these advertisements, students should analyze them for their effectiveness.

Next the lessons will shift towards a focus on various drugs where students will learn the various classifications of drugs, and then research one specifically. Through the use of reputable online resources, students will be required to gather information about a specific drug and present that information in a drug awareness brochure created using Microsoft Publisher. Students will also participate in a simulation activity titled, “Mouse Party”, where they will view how certain drugs affect the brain.

Lastly, the unit concludes with alcohol where students will study topics such as binge drinking, fetal alcohol syndrome, driving under the influence, among others. Through this online research, students will gather information regarding a chosen topic and present these facts in a scripted public service announcement in a format of their choice.

**Assessment**

Assessment is a vital part of this curriculum, being that a large portion of the work is done individually. It is essential that the teacher is able to determine whether
or not the students are retaining the curriculum, just as they would in a traditional classroom setting.

There are several forms of assessment that should be used during this unit. First, the teacher should be monitoring the discussion boards regularly and even participating themselves. Students will be given a grade based on their thoughtful responses to prompts, as well as how well they build upon others ideas. This is a good opportunity for those who struggle with speaking up in a classroom, to voice their opinion in a different way.

Secondly, throughout the four week unit, students will be submitting their assignments, just as they would in a traditional classroom. The assessment of each individual assignment is important, and will give teachers insight as to who is using their time properly and which students are struggling with time-management and motivation. As discovered in the literature review, the format of a hybrid course can prove to be difficult for some teens. For this reason, a teacher will need to be diligent about collecting assignments and providing timely feedback to their students.

Lastly, a summative assessment should allow teachers to discover what and how their students were able to learn throughout the unit. The final assessment will be in the form of a multiple choice and short answer exam. Teachers are able to decide if they would like to allow students to use notes from the unit, or not.

There are many concerns that the teacher needs to consider when teaching the health science course. For example teachers need to reflect on the following; providing a curriculum that will engage all students and their learning styles, keeping
motivational factors in mind, and deciding whether or not they want technology to play a big role in their classroom. Keeping these limitations in mind, will result in a more successful health course for the students.
Chapter 4

SUMMARY

There is a state of emergency in the United States when it comes to the health of Americans. Government has deemed obesity an epidemic, and one which will not solve itself on its own. In order to combat this problem, there needs to be a greater focus on health education in schools than is currently occurring. Parents can no longer be relied upon to teach or model healthy lifestyles for their children. It is now the responsibility of the school system to work towards creating a healthier America.

It is clear that healthy habits begin forming at a young age. Adolescents are at an impressionable age and the habits they form and the decisions they make will stick with them for a lifetime. In order to appeal to this younger generation, educators need to become more innovative with their approach. This innovation should begin with a true integration of technology into the curriculum. Specifically, a high school Health class should be enriched by means of the addition of consistent computer use.

It is undeniable that technology has its place in the classroom. Health teachers need to begin using technology to keep material current, relevant, and enjoyable for students. The main goal of this project is to create opportunities for educators to do this. Using a hybrid learning model, students should complete the unit demonstrating proficiency in knowledge of substance abuse, as well as take away technology skills that can be transferred to other disciplines. Each student needs to pass a high school Health class in order to graduate, but more importantly, needs to take away the information that is essential for a student’s future.
Recommendations

Conducting a study on whether or not a supplemental guide such as the one provided in this project made a difference in student learning, participation, and achievement would be a good way to assess the research suggested in the review of literature. A suggestion is to create an experiment where two Health classes are being taught concurrently, one using the hybrid model to extend learning, and the other using a more traditional, direct instruction model of teaching. It would be ideal for both classes to be taught at the same site, at the same time, and by the same teacher. In order to add variance to the study, teachers could implement the study at additional grade levels, at different school sites, in different socioeconomic populations, or even experiment with the hybrid model in different subjects.

Educators also need to be proactive in revamping their teaching style. Lessons that include a change in teaching style or delivery require that the teacher be thorough with their planning. Teachers should take every opportunity possible to attend any trainings or workshops available that may help to further their professional development. Teachers who are interested in the hybrid model should be sure to truly consider and understand their students learning styles in order for this curriculum to be effective.

Additionally, teachers need to ensure equality when requiring any component of technology in the classroom. Every student needs to have equal access to the computers, the internet, and printers in order for the hybrid course to work.
The research supporting this project has investigated many aspects of health, learning styles and motivation in high school students, and technology use in the classroom. It is imperative that health education is continued to be taught at the high school level, and that the course continues to evolve with its students.

According to the American Cancer Society, the American Diabetes Association, and the American Heart Association (2008):

(We) believe that quality health education programs delivered in the nation’s schools can improve the well-being and health of our children and youth… Research studies provide evidence that promoting and establishing healthy behaviors for younger people are more effective, and often easier, than efforts to change unhealthy behaviors already established in adult populations… The health and well-being of our nation’s young people is not a matter of luck. It is not a chance or random event. It must be a planned outcome. The case for well-designed, well-resourced, and sustained health education in the nation’s schools is compelling. (para. 1)
APPENDIX A

Background of Researcher
Background of Researcher

As a young child I constantly found myself curious about the lives of teachers. It seemed so secretive. When did they plan these fantastic lessons? How did they know what to do every day when they walked into the classroom? What did they do all summer while their students were off? This curiosity left me longing for more information about the secret life of a teacher, and ultimately down that career path myself.

Upon earning my undergraduate degree from Sacramento State University in 2006, with a Bachelors degree in Communication Studies, I joined the workforce and began what I thought would be a fulfilling career in television advertisement. It didn’t take me long to begin searching for a credential program that would allow me to pursue my true passion in education. I completed my multiple and single subject teaching credentials within a year from National University.

Since this time I have worked at four different schools, taught four different subjects, and three different grade levels. I suppose I picked a “challenging” time to become an educator. The silver lining is that for the past two consecutive years I have managed to maintain a job at the same site teaching ninth grade Health.

I couldn’t be more ecstatic to be teaching students about something I find so valuable, Health. In my everyday life I am a fitness fanatic who reads nutrition and exercise articles for fun. There is no better feeling than to arrive at work each day and know I am going to address a concept that will stay with some of my students forever, and hopefully help them to make better decisions down the road. It was this feeling that led me to want to continue my education and pursue a Master’s degree. My hope is that this project will be one of the stepping stones towards furthering my career, and continuing to improve health courses in schools.
APPENDIX B

Ninth Grade Health: A Supplementary Guide to Integrating Hybrid Technology into the Curriculum
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th></th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Introduction to Tobacco</td>
<td>39</td>
</tr>
<tr>
<td>2.</td>
<td>Tobacco in 22 minutes HRM video</td>
<td>48</td>
</tr>
<tr>
<td>3.</td>
<td>Anti-Tobacco Ads Analysis</td>
<td>50</td>
</tr>
<tr>
<td>4.</td>
<td>Frontline Meth Epidemic</td>
<td>72</td>
</tr>
<tr>
<td>5.</td>
<td>Glencoe Health Chapter 23</td>
<td>74</td>
</tr>
<tr>
<td>6.</td>
<td>Dying High HRM Video</td>
<td>79</td>
</tr>
<tr>
<td>7.</td>
<td>Mouse Party</td>
<td>81</td>
</tr>
<tr>
<td>8.</td>
<td>Drug Brochure</td>
<td>85</td>
</tr>
<tr>
<td>9.</td>
<td>Truth About Drugs</td>
<td>90</td>
</tr>
<tr>
<td>10.</td>
<td>Introduction to Alcohol</td>
<td>92</td>
</tr>
<tr>
<td>11.</td>
<td>Alcohol PSA</td>
<td>114</td>
</tr>
<tr>
<td>12.</td>
<td>Glencoe Chapter 21</td>
<td>116</td>
</tr>
<tr>
<td>13.</td>
<td>Online Final Assessment</td>
<td>119</td>
</tr>
</tbody>
</table>
**LESSON 1- INTRODUCTION TO TOBACCO**

<table>
<thead>
<tr>
<th>STANDARD: Health Education Content Standard for California Public Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 9-12 : Alcohol, Tobacco, and Other Drugs.</td>
</tr>
<tr>
<td>Standard 1: Essential Concepts</td>
</tr>
<tr>
<td>Standard 2: Analyzing Influences</td>
</tr>
</tbody>
</table>

| OBJECTIVE: Students will be able to identify key terms of tobacco, as well as both short-term and long-term effects of using tobacco. |

| PRIOR KNOWLEDGE: Students should have a foundational knowledge of tobacco from their seventh grade health course. |

<table>
<thead>
<tr>
<th>MATERIALS NEEDED:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tobacco PowerPoint</td>
</tr>
<tr>
<td>2. Projector</td>
</tr>
<tr>
<td>3. Access to computers with internet</td>
</tr>
<tr>
<td>4. Health Notebook</td>
</tr>
</tbody>
</table>

| TIME FRAME: 45 minute class period with 15 minute online discussion |

<table>
<thead>
<tr>
<th>LESSON PROCEDURE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Begin lesson with a warm-up discussion asking students to recall three things they already know about tobacco. Use this conversation to set the pace for the subsequent days ahead.</td>
</tr>
<tr>
<td>2. Walk students through the Introduction to Tobacco PowerPoint presentation. Begin by introducing students to the essential question for the notes: Why is it important to study tobacco?</td>
</tr>
<tr>
<td>3. Students should take notes on the presentation which they will be able to refer to for future discussions and assessments. It is preferred that the students take Cornell notes during this unit, but not required.</td>
</tr>
<tr>
<td>4. Upon completion of the PowerPoint, have students review their notes and underline key information. If using Cornell notes, have them complete the left-hand column of their notes.</td>
</tr>
</tbody>
</table>
5. Refer students to the online discussion question for homework to be completed that evening. Students should answer the question: If many people are now aware of the negative consequences of tobacco use, what factors do you believe contribute to their continued usage? Students should post a response, as well as comment on AT LEAST two classmates posts.

**EVALUATION:** Students should be evaluated on their notes taken in class. In addition, teachers should assess students on their contribution to the online discussion. Students should have a thought provoking answer which refers back to the class notes. Their comments to others should strengthen the discussion.
TOBACCO

Essential Question: Why is it important to study tobacco??
**QUICK FACTS**

- Worldwide, tobacco causes more than 5 million deaths per year.
- Trends show that number will rise to 8 million per year by 2030.
- One in every five deaths in the United States is smoking related.
- On average, smokers die 13-14 years earlier than non-smokers
- **Nicotine- the addictive drug found in tobacco leaves.**
  - Increases heart rate, constricts blood vessels, reduces circulation.
  - Causes release of dopamine (stimulates the pleasure centers of the brain and makes the smoker feel good)

- **Stimulant- a drug that increases the action of the central nervous system, the heart, and other organs.**
WHAT ELSE IS IN TOBACCO?

- **Tar** - dark, sticky resin that coats the respiratory system.
  - This is the main cause of cancer from tobacco.
- **Carbon Monoxide** - replaces oxygen in blood, reducing oxygen available to the body.
- Cigarettes contain at least 70 known **carcinogens**, including cyanide, formaldehyde, and arsenic. They also contain poisonous chemicals used in insecticides, paint, toilet cleaner, antifreeze, and explosives.
HOW IT AFFECTS THE BODY

- Short-Term Effects of Tobacco Use:
  - Changes in brain chemistry.
  - Increased respiration and heart rate.
  - Dulled taste buds and reduced appetite.
  - Bad breath and smelly hair, clothes, and skin.
LONG TERM EFFECTS

- **Chronic Bronchitis** - A long-lasting lung disease in which the airways in the lungs are blocked or thinned, causing difficulty breathing.
- **Emphysema** - An incurable chronic lung disease in which the alveoli are damaged and breathing is restricted.
- **Lung Cancer: 89% of cases are smokers**
- **Heart Disease**
- **Infertility in women**
- **Dental diseases**
- **Ulcers**
STATISTICS

- About 25% of the US smokes tobacco
- 90% of smokers start by the age of 19
- 3 million high school students smoke
- Tobacco use is associated with alcohol and illicit drug use, and acts as a "gateway drug"
  - **Gateway drug** - use of a lower classed drug can lead to the subsequent use of "harder", more dangerous drugs.

* CDC.gov 2012
## LESSON 2: TOBACCO VIDEO

<table>
<thead>
<tr>
<th>STANDARD: Health Education Content Standard for California Public Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 9-12: Alcohol, Tobacco, and Other Drugs.</td>
</tr>
<tr>
<td>Standard 1: Essential Concepts</td>
</tr>
<tr>
<td>Standard 2: Analyzing Influences</td>
</tr>
</tbody>
</table>

### OBJECTIVE: Students will be able to determine the effects of tobacco use through testimonials found in the video. In addition, they should be able to describe how nicotine affects the human brain and causes addiction as well as understand the serious physical risks of tobacco use.

### PRIOR KNOWLEDGE: Students should have an understanding of basic key terms located in their tobacco notes from lesson one.

### MATERIALS NEEDED:

1. HRM Video “Everything You Need to Know About Tobacco in 22 Minutes”. (If this video is not available, it can be replaced with one of similar content).
2. Access to computers with internet.

### TIME FRAME: 30 minute class period with 15 minute online extension.

### LESSON PROCEDURE:

1. Begin class by having students create a summary for their notes from the previous day. Have students reflect on the prior lesson by attempting to answer the essential question.
2. Play the HRM video for students.
3. Refer students to the online poll for homework. Post the following poll questions online to gather information about how the class feels about tobacco use.
How dangerous is cigarette smoke?
How addictive is nicotine?
How problematic is a smoking habit?
How acceptable is smoking to you?

Students should answer using a Likert scale such as the example below.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not</td>
<td>Somewhat</td>
<td>Very</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EVALUATION: Students should be evaluated for their attentiveness during the video as well as their participation in the online poll.
**LESSON 3- ANTI-TOBACCO AD ANALYSIS**

<table>
<thead>
<tr>
<th>STANDARD: Health Education Content Standard for California Public Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 9-12 : Alcohol, Tobacco, and Other Drugs.</td>
</tr>
<tr>
<td>Standard 2: Analyzing Influences</td>
</tr>
<tr>
<td>Standard 3: Accessing Valid Information</td>
</tr>
</tbody>
</table>

**OBJECTIVE:** Students will form opinions on the effectiveness of advertisements aimed at creating awareness of the dangers of tobacco.

**PRIOR KNOWLEDGE:** Students should know the dangers of tobacco and have their own feelings about why people choose to use the product.

**MATERIALS NEEDED:**

1. Anti-Tobacco PowerPoint
2. Projector
3. Access to computers with internet
4. Health Notebook

**TIME FRAME:** 45 minute class period with 15 minute online extension.

**LESSON PROCEDURE:**

1. Begin lesson with a warm-up using the results from the poll from lesson 2. This discussion should allow students to get a feel for where they stand on tobacco use, as well as hear the opinions of their peers. Students should use these feelings when analyzing the anti-tobacco ads.
2. Hand out the Anti-Tobacco Ad worksheet.
3. Walk students through the Anti-Tobacco Ad PowerPoint. Students should rank each ad based on its effectiveness. A rank of 5 being most effective at making them not want to smoke and 1 being the least effective.
4. At the end of the presentation, facilitate a discussion allowing students to share which ads they felt were effective or not and why.

5. Refer students to the online extension. Students should use the internet to search for Anti-Tobacco Advertisements in video form. Interested students should post their videos and state why they felt it was effective at preventing tobacco use or not. Other students, as well as the teacher, should comment on the videos that are posted.

| EVALUATION: Students should be evaluated on their completion of the in class activity as well as participation in the warm-up and closing discussions. Teachers also have the option of offering extra credit to students who participate in the online extension activity, or making it a mandatory assignment. |
ANTI-TOBACCO AD ANALYSIS

Directions: You will view 12-15 print ads which aim to discourage tobacco use among various audiences. Next to each number rank the ad 1-5. A rank of 5 being most effective at making you not want to smoke and 1 being the least effective. Be sure to write an explanation next to each number, discussing why you felt that way. Be prepared to discuss your most and least favorite with the class.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

13.

14.

15.
ANTI-TOBACCO ADS
OBJECTIVE:

- Today you will view various anti-tobacco ads. You will rank them based on their effectiveness and give a reason for your score.
World-wide, almost 5 million die prematurely each year as a result of smoking.

Issued In The Public Interest By Cancer Society Of India
53,000 non-smokers die every year from secondhand smoke.
THE SURGEON GENERAL WARNS THAT SMOKING IS A FREQUENT CAUSE OF WASTED POTENTIAL AND FATAL REGRET.
Smoking to me is like suicide... it is death in anticipation.
If what happened on your inside happened on your outside, would you still smoke?
Because of smoking
I’ve had about 20 amputations
— Marie, Bronx, NY

Quit smoking today. For help, call 311.
Nothing Will Ever Be the Same.

Smoking gave me throat cancer at 39. Now I breathe through a hole in my throat and need this machine to speak.

—— Ronaldo Martinez

Now, anti-smoking advertisements illustrate the realities of tobacco use.
ALLOW EXTRA TIME TO PUT ON YOUR LEGS.

Brandon, Age 30, Diagnosed at 18
North Dakota

Smoking causes immediate damage to your body.
For Brandon, it caused Buerger's disease, which cut off blood flow and led to amputation. You can quit. For free help, call 1-800-QUIT-NOW.
AFTER EVALUATING EACH SLIDE

- At the bottom of your paper, please choose the most effective ad and discuss why you feel it would be most successful at keeping someone from smoking.
LESSON 4- FRONTLINE: METH EPIDEMIC

<table>
<thead>
<tr>
<th>STANDARD: Health Education Content Standard for California Public Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 9-12 : Alcohol, Tobacco, and Other Drugs.</td>
</tr>
<tr>
<td>Standard 1: Essential Concepts</td>
</tr>
<tr>
<td>Standard 2: Analyzing Influences</td>
</tr>
</tbody>
</table>

OBJECTIVE: Students will be able to determine the negative effects of methamphetamine use on an individual, their family, and the community.

PRIOR KNOWLEDGE: Students should have a basic understanding of stimulant drugs.

MATERIALS NEEDED:

2. Access to computers with internet
3. Health Notebook
4. Meth Epidemic worksheet

TIME FRAME: 1 hour video and 20 minute in class discussion

LESSON PROCEDURE:

1. Prior to the lesson, distribute the Meth Epidemic Worksheet
3. Students should watch the video online in its entirety.
4. The following class period, the teacher should review the worksheet in order to check for understanding.

EVALUATION: Students should be evaluated on their completion of the worksheet as well as their participation in the discussion.
Meth Epidemic Video Questions

1. What changes occur in the lives of meth users and their families?
2. Why are treatment programs for meth addiction less successful than programs for other drug addictions?
3. What role have pharmaceutical companies played in the spread of meth use and how has that role changed over time?
4. In what ways have politicians influenced the meth epidemic?
5. What changes occur in an addict's brain as a result of meth use? What long-term effects will this have on the individual?
6. What social and economic factors might lead people to abuse meth?
7. To what extent is "OnTrack" a successful treatment program for women?
8. What factors turned meth from an "Oregon" problem to a national epidemic?
9. How have lobbyists influenced the meth epidemic?
10. A major issue about cold products containing ephedrine or pseudoephedrine concerns balancing access for legitimate consumers with those who are using it for illicit means. Do you think this is a valid concern? Why or why not?
11. If you were in charge of solving the meth epidemic, what would you do?
12. What do you know about meth use in your state?
LESSON 5 - GLENCOE CHAPTER 22

STANDARD: Health Education Content Standard for California Public Schools
Grades 9-12: Alcohol, Tobacco, and Other Drugs.

Standard 1: Essential Concepts
Standard 2: Analyzing Influences
Standard 3: Accessing Valid Information
Standard 4: Interpersonal Communication
Standard 5: Decision Making

OBJECTIVE: Students will have a complete understanding of the various illegal drugs and the risks involved with each of them.

PRIOR KNOWLEDGE: None required

MATERIALS NEEDED:

1. High School Health Science Textbook. (Note: For the purpose of this lesson, I will refer to the Glencoe 2011 Health text. Please modify this lesson to suit the available curriculum).
2. Chapter 22 Worksheet
3. Computers with internet

TIME FRAME: 1 hour and 30 minutes

LESSON PROCEDURE:

1. Begin the lesson with a discussion of the categories of drugs. Review stimulants, narcotics, depressants, psychedelics, and steroids.
2. Students should complete the worksheet corresponding to chapter 22. They can either use the in class text or refer to the online version of the text.
3. Upon completion, refer students to the following website:
   http://glencoe.mcgraw-hill.com/sites/0078913284/student_view0/unit7/chapter22/
Give students the choice of completing either Web Activities: Lesson 3 or Lesson 4. Once they are completed, they should print the answer page to demonstrate understanding and earn credit.

EVALUATION: Students will earn credit for the worksheet completed in their notebook, as well as completed online extension activity.
1. What is difference between medicines and drugs?

2. What is an analgesic?

3. What are a synergistic effect and an antagonistic interaction?

4. Define tolerance.

5. What is withdrawal?

6. What is the difference between prescription and over-the-counter medicines?

7. Give examples of medicine misuse.

8. What is substance abuse?

9. What are five factors that influence decisions about drugs?

10. People who inject drugs increase their risk of these two diseases:
11. What is the difference between psychological and physiological dependence?

12. When does someone have an addiction?

13. Who else gets hurt by an individual’s drug use?

14. List 5 reasons why marijuana is harmful.

15. Explain why marijuana use and driving are hazardous.

16. What do inhalants do to the body?

17. Anabolic steroids are synthetic versions of:

18. How can steroids lead to injuries?

19. Name 3 illegal stimulants and 2 legal stimulants.

20. After the euphoria, what affect do powerful stimulants cause?

21. A very dangerous, form of cocaine that is often smoked is _________________. 
22. What does the brain scan of a methamphetamine user show?

23. What do depressant drugs do?

24. What is oxycontin and why is it dangerous?

25. Which two drugs are called the date-rape drugs?

26. What must pharmacists do with narcotics and why?

27. Why is heroin harmful?

28. How do hallucinogens cause hallucinations?

29. What harms can LSD cause?

30. What harmful affects does ecstasy cause to the user?

31. What are the three steps to take when offered a drug?

32. List three warning signs of drug use.
**LESSON 6- DYING HIGH HRM VIDEO**

<table>
<thead>
<tr>
<th>STANDARD: Health Education Content Standard for California Public Schools</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 9-12 : Alcohol, Tobacco, and Other Drugs.</td>
<td></td>
</tr>
<tr>
<td>Standard 2: Analyzing Influences</td>
<td></td>
</tr>
<tr>
<td>Standard 4: Interpersonal Communication</td>
<td></td>
</tr>
<tr>
<td>Standard 5: Decision Making</td>
<td></td>
</tr>
</tbody>
</table>

**OBJECTIVE:** After viewing the video Dying High: Teens in the E.R. and participating in the class students will: learn skills for avoiding peer pressure to experiment with drugs or engage in risky behavior and understand the scope and magnitude of the risks of serious accidents or death by learning about the facts and figures of teen emergency room incidents.

**PRIOR KNOWLEDGE:** Students should have an understanding of the essential concepts and consequences of drug and alcohol use.

**MATERIALS NEEDED:**

1. HRM Dying High: Teens in the ER video
2. Access to computers with internet

**TIME FRAME:** 1 hour

**LESSON PROCEDURE:**

1. Allow students to watch the HRM video, Dying High.
2. Post the following questions on the class interactive website:
   1. TRUE or FALSE: Any drug, or any combination of drugs, can put you in the emergency room.
   2. TRUE or FALSE: Using marijuana is not capable of putting you in the hospital.
   3. TRUE or FALSE: Marijuana can be laced with other drugs such as heroin, crack or formaldehyde.
4. TRUE or FALSE: A teenager can not have a heart attack.
5. TRUE or FALSE: If you have a blood alcohol level of 0.23, you are okay to drive.
6. TRUE or FALSE: High levels of intoxication can induce vomiting.
7. TRUE or FALSE: If you are brought into the emergency room your clothes may be cut off to check for drug injection punctures, stab and bullet wounds, and other signs of trauma.
8. TRUE or FALSE: Tubes are put into every orifice where needed—to excrete urine, to neutralize toxins, to aid breathing and to excrete whatever pills or fluid may be in the stomach.
9. TRUE or FALSE: Having your stomach pumped is just a myth.
10. TRUE or FALSE: Peer pressure does not play a role in engaging in dangerous or risky behavior.

3. For homework, students should complete the post-test online and submit their answers.

EVALUATION: Students will be assessed on their answers submitted online, following the video.
# LESSON 7 - MOUSE PARTY

**STANDARD:** Health Education Content Standard for California Public Schools Grades 9-12 : Alcohol, Tobacco, and Other Drugs.

**Standard 1: Essential Concepts**

**OBJECTIVE:** Students will take a look inside the brains of mice on drugs and learn how various drugs disrupt the synapse to make the user feel "high."

**PRIOR KNOWLEDGE:** Students will need to have a basic understanding of vocabulary words featured in chapter 22.

**MATERIALS NEEDED:**

1. Mouse Party Worksheet
2. Access to computers with internet

**TIME FRAME:** 1 hour 30 minutes

**LESSON PROCEDURE:**

1. Refer students to the following website: [http://learn.genetics.utah.edu/content/addiction/drugs/mouse.html](http://learn.genetics.utah.edu/content/addiction/drugs/mouse.html)
2. Students should complete the accompanying worksheet.

**EVALUATION:** Students will be assessed on the completion of the mouse party worksheet.
Name: _______________________________

Mouse Party!

Instructions: Go to http://learn.genetics.utah.edu/content/addiction/drugs/mouse.html
After the animation comes up, click the “play” button on the animation and you should see several
different mice acting very strangely. Each mouse has been administered a different drug. Click on the
mouse/ drug you first want to learn about and drag him to the chair. Once in the chair, let go of the
mouse and the explanation will start. Repeat this process for each drug until all the questions are
answered.

Heroin:
1) What is active in a normal body before heroin enters it? What is inhibited?

2) Opiates are natural in the human body, and regulate our feelings of relaxation, etc. When they
activate what do they shut down? What is released?

3) What does heroin mimic?

4) When a person takes heroin what is flooding into the system? What is turned off?

5) Where are opiate receptors located in the brain? What feelings do they control?

6) When are natural opiates released?

7) Where is heroin used in the medical world?

Ecstasy
1) What is the role of serotonin transporters?

2) What does ecstasy mimic?

3) What happens to the transporter after ecstasy is taken up? What is pumped out of the cell?

4) What happens to the serotonin once it re-enters the synaptic cleft? What happens to the cell it binds
to?

5) What pathways does ecstasy affect? What do these pathways do?

6) What makes ecstasy addictive?
Marijuana

1) Before marijuana enters the system, what is inhibited from being released?

2) What turns off the inhibitory transmitters?

3) What is the active chemical in marijuana? What does it mimic?

4) Once a person takes marijuana, what is leaked into the system?

5) What does anandaminde responsible for naturally?

6) What feelings does anandimide induce?

7) What is the difference between the active ingredient in marijuana and anandimide?

Methamphetamine

1) What do dopamine transporters normally remove and from where?

2) What does meth mimic? What happens to meth when it is in the body?

3) Once inside the cell where does meth go?

4) What happens to the transporters when excess dopamine is in the cell?

5) What does the dopamine bind to? What does this do to the cell?

6) Why is meth very addictive?

7) What are the feelings associated with a person who takes meth?

Alcohol

1) What inhibitory neurotransmitter controls neural activity along many pathways?

2) What happens when GABA binds to a receptor?

3) What is the excitatory neurotransmitter?

4) How does alcohol interact with GABA receptors?
5) What is the second receptor alcohol binds to? What does this do to the cell?

6) What are the three areas alcohols affects the brain? What do you think happens to a person who takes alcohol knowing these effected areas?

Cocaine
1) What happens to dopamine once it has done its job in the synaptic cleft?

2) What does cocaine block?

3) What happens to dopamine once cocaine enters the system? What happens to the cell?

4) Where does cocaine concentrate? Do you think this makes it more, or less addicting?

5) What is another part of the brain cocaine affects?

6) Knowing that dopamine is a reward neurotransmitter, what do you think a person using cocaine would feel?

LSD
1) What does LSD act exclusively on? Why?

2) Is there only one type of serotonin receptor? If no, do they all have the same function or different ones?

3) Does LSD interact with receptors the same way? If no what are two examples of an effect LSD has?

4) What region of the brain does LSD affect?

5) What is the above brain region responsible for?
LESSON 8- DRUG BROCHURE

| STANDARD: Health Education Content Standard for California Public Schools
| Grades 9-12 : Alcohol, Tobacco, and Other Drugs.
| Standard 1: Essential Concepts
| Standard 2: Analyzing Influences
| Standard 3: Accessing Valid Information

| OBJECTIVE: Students will create a brochure which will aim to attract attention to a specific product or idea and provide detailed information to the public. The brochure will use these tactics to increase awareness and knowledge of drugs discussed in class.

| PRIOR KNOWLEDGE: Students will need access class notes in order to research their specific drug.

| MATERIALS NEEDED:
| 1. Class notes
| 2. Access to library computers with research database
| 3. Access to library texts pertaining to drugs and abuse
| 4. Health text
| 5. Drug brochure research questions
| 6. Drug brochure rubric
| 7. Access to Microsoft Publisher or a similar program

| TIME FRAME: 3 class periods

| LESSON PROCEDURE:
| 1. Introduce students to the brochure, by showing them the Drug Brochure Research Questions.
| 2. If you have examples of brochures, pass them around the room to give students an idea of quality work.
3. Allow students to sign up for their drug to research by giving them a choice or allowing them to choose. It is best to have a variety of drugs that are being researched.

4. Distribute the drug brochure research questions.

5. Allow students one day in the library to complete the research questions through use of available books, online research, class notes, or their textbook.

6. The next two days, students should input all information to a brochure format using Microsoft Publisher.

EVALUATION: Using the drug brochure rubric as a guide, assess students on their completion of the project.
Informative Drug Brochure

My Drug ______________________

**Purpose:** The purpose of a brochure is to attract attention to a specific product or idea and provide detailed information to the public. For this assignment, your brochure will use these tactics to increase awareness and knowledge of drugs we have discussed in class.

**Directions:** You and your partner will be given a drug to research, using your class notes, library research, and your Health textbook. After gathering your needed information, you and your partner will create a brochure providing information to increase the awareness and knowledge of your classmates of your specific drug. To help guide your brochure, you and your partner will complete the following prompts and strategically place the information in the form of a brochure. Your brochure may be displayed any way you and your partner feel appropriate, but it must include the following information:

1. What is the name of your drug?

2. Pictures that represent your drug (including forms of the drug).

   *No information required here, just make sure you have pictures.

3. What category does your drug fall under? (stimulant, depressant, hallucinogen)
   How is that category defined?

4. What are some common names of your drug?

5. How is your drug made or where does it come from?
6. How is your drug used? (for example, is it consumed? is it smoked? Etc…)

7. How does your drug affect the body?

8. What are short term effects of the drug use?

9. What are long term effects of the drug use?

10. How does your drug affect non-users? (example: family, friends, school, etc.)

11. If the drug is so dangerous, why do people still use it?

12. Who is most at risk for using this drug?

13. What are some safe alternative activities?
   (what are some activities that someone can participate in instead of using your drug)

14. Bibliography
Drug Brochure Score Sheet:

1. Correct information about your drug
   - Name, pictures, category, common names, why and how it’s made and used, effects on the body, who uses, who’s at risk, safe alternatives, bibliography

   /30

2. Attractiveness of your brochure / Overall neatness

   /5

3. Research Questions turned in and complete

   /10

   TOTAL:

   /45

Comments:
LESSON 9- TRUTH ABOUT DRUGS

STANDARD: Health Education Content Standard for California Public Schools
Grades 9-12 : Alcohol, Tobacco, and Other Drugs.
Standard 1: Essential Concepts
Standard 2: Analyzing Influences

OBJECTIVE: Upon completion of the video, students will be able to learn more about the side effects and dangers of illicit drugs, discuss the consequences of drug use, both emotional and physical, examine the personal stories of people whose lives have been damaged by drug use, and to learn how to refuse drugs and make healthy lifestyle choices.

PRIOR KNOWLEDGE: None required

MATERIALS NEEDED:
1. Teen Files: Truth About Drugs Video
2. Access to computers with internet

TIME FRAME: 1 hour and 20 minutes

LESSON PROCEDURE:
1. Prior to viewing the video, initiate a discussion featuring the following question: Ask students if they know someone who uses drugs. How have the drugs affected the person’s life? Did they know the person before the drug use began? How was the person different before the drug use?
2. Show students the Teen Files video.
3. Refer students to the following online discussion question for homework: Ask students to imagine the following situation. They know a fellow student named Corey. His parents have just broken up, and things are not good at home. Corey is depressed and frustrated, signals that catch the attention of a student who sell drugs on campus. The student turns Corey on to heroin, to help...
him “ease the pain.” During the following weeks, Corey becomes more and more withdrawn. He starts missing class, and he always looks pale and unhealthy. Some of Corey’s old friends suspect that he is addicted to heroin. Whenever they try to confront him about it, he becomes angry or ignores them completely. What could Corey’s friends do to help him? Where could they go for help? What organizations could give them advice?

EVALUATION: Students will be assessed on their participation in the online discussion. They should post an answer of their own, as well as comment on the posts of other members in the class. The teacher should also add insight and participate in the discussion.
### LESSON 10: INTRODUCTION TO ALCOHOL

<table>
<thead>
<tr>
<th>STANDARD: Health Education Content Standard for California Public Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 9-12 : Alcohol, Tobacco, and Other Drugs.</td>
</tr>
<tr>
<td>Standard 1: Essential Concepts</td>
</tr>
</tbody>
</table>

**OBJECTIVE:** Students will be able to understand the effects of alcohol on the body, recognize key vocabulary terms, consequences of drinking, and influences on alcohol use.

**PRIOR KNOWLEDGE:** None required

**MATERIALS NEEDED:**

1. Alcohol Powerpoint
2. Student notebook

**TIME FRAME:** 1 hour

**LESSON PROCEDURE:**

1. Have students write the essential question, “What is the effect of alcohol on the body”, in their notes. Teacher can begin the class by asking students to brainstorm some ways that they believe alcohol effects the body.
2. Present the Alcohol Powerpoint to students and require them to take notes. Using a Cornell Note format is ideal but not essential to the outcome of the lesson.
3. Upon completion, have students complete the left side column of their notes.
4. For homework, have students complete a summary of their notes.

**EVALUATION:** Students will be assessed on the completion of the notes in class.
Essential Question: What effect does alcohol have on the body?
The FACTS:

- **Ethanol**, the type of alcohol in alcoholic beverages, is a powerful and addictive drug.
- Alcohol is a **depressant**: a drug that slows the central nervous system.
- Alcohol quickly affects a person’s motor skills by slowing reaction time, impairing vision, diminishes clear thinking and good judgment.
- **Intoxication**: the state in which the body is poisoned by alcohol or another substance and the person’s physical and mental control is significantly reduced.
Statistics:

- 13 million Americans have some form of alcohol abuse or dependence
- 25% of families suffer from alcohol or drug-related problems
- 30 million children of alcoholics in the U.S.
- 49% of episodes of violence are related to alcohol
- 50% of reported rapes are related to alcohol
What is a “drink?”

- It’s not how many "drinks" that you have, but how much alcohol that you consume

- **One 12 oz beer**
  *an average beer has about 5% alcohol content*

- **One shot** (1.25 oz) of 80 proof liquor
  *about 40% alcohol content*

- **One 5 oz glass of wine**

- **Binge Drinking:** drinking 4 for women and 5 for men alcoholic drinks at one sitting, a serious problem among young people
Different “Drinkers”

- **Social**: rarely drinks to excess, drinks mostly on special occasions, use doesn’t affect their lives
- **Problem drinker**: binge drinks, drinks as a coping mechanism, drinks for fun, use causes problems with family, friends, school, job, or law
- **Alcoholic**: alcohol addict, drinks to feel normal, interferes with daily living
BAC

- **BAC = blood alcohol concentration**
  - Amount of alcohol in a person’s blood expressed as a percentage
  - BAC and the law...
    - *Over 21 = .08*
    - *Under 21 = no tolerance!*
  - *Death occurs at .4-.5*

Continued...

- **Agglutination**: clumping of blood cells interfering with the delivery of oxygen to brain and body cells
- **Blackouts**: being conscious with a high BAC and not remembering any details
Behavioral effects

- .01 Decreased Inhibitions
- .01 -.02 Vision Changes
- .03 Changes in Inhibition
- .05 Buzz, Beginning to Decrease Motor Coordination
- .15 -.20 Severe Loss of Judgement and Muscle Coordination
- .30 Passing Out, Coma
- .40 -.5 Death
Factors That Influence BACs

- Concentration that is ingested
- Proof of the beverage
- Speed of consumption
- Food in your Stomach
- Weight/height
- Sex of the individual
- Tolerance
- Altitude
Proof of Beverage

- **Amount of alcohol/volume of water**
  - 100% Ethanol/0% Water = 200 Proof
  - 50% Ethanol/50% Water = 100 Proof
  - 40% Ethanol/60% Water = 80 Proof
- Not the same as concentration
- **The greater the proof, the faster**
  - the entry into the bloodstream

Alcohol and men: Alcohol tolerance has to do with body type, size and your metabolism.

Tolerance: A person can drink alcoholic beverages in great quantities without feeling the effects.
Alcohol and the Law

- **DUI** - driving under the influence
  - Suspension or revocation of the driver’s license (90 days, year, 3 years)
  - A fine of vehicle confiscation for DUI conviction
  - An ignition interlock device
  - Alcohol education and prevention program

- **MIP** - minor in possession

- Alcohol related accidents are the **#1 cause of death for teens**
The Path of Alcohol

1. **MOUTH**: alcohol is consumed and passes down the esophagus
2. **STOMACH**: a little alcohol goes through the stomach walls and into the bloodstream, but most passes into small intestine
3. **SMALL INTESTINES**: alcohol is rapidly absorbed through the walls of the small intestines and into bloodstream
4. **BLOODSTREAM**: the heart pumps the blood (and alcohol) to all parts of the body
5. **LIVER**: burns up or oxidizes the alcohol at a rate of 1/2 ounce per hour (about 1 drink an hour)

* Oxidation is when liver changes alcohol into water, carbon dioxide, and energy
# Health Effects

<table>
<thead>
<tr>
<th>MOUTH &amp; ESOPHAGUS</th>
<th>STOMACH</th>
<th>SMALL INTESTINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>✷ Irritation</td>
<td>✷ Irritates and damages mucosal lining</td>
<td></td>
</tr>
<tr>
<td>✷ Lesions</td>
<td>✷ Gastritis</td>
<td></td>
</tr>
<tr>
<td>✷ Ulcers</td>
<td>✷ Ulcers</td>
<td></td>
</tr>
<tr>
<td>✷ Cancer</td>
<td>✷ 15-20% Absorbed Here</td>
<td></td>
</tr>
</tbody>
</table>

- Damages Mucosal Cells, Villi, and Microvilli
- Decreases absorption of nutrients and vitamins
- Increases triglyceral and cholesterol production
- Majority Absorbed Here
Respiratory consequences:

- Slower breathing
- Sleep apnea
Cardiological Consequences:

- Elevated blood pressure and heart rate
- Stroke
  * Cutoff of oxygen to the brain
- Heart failure
  * Cutoff of oxygen to the heart
Liver Consequences:

- Alcoholic
- **Fatty liver**
  - A reversible condition where large vacuoles of fat accumulate in liver cells
- **Hepatitis** (liver disease)
  - Inflammation of the liver
- **Cirrhosis**
  - A buildup of scar tissue that changes the structure of the liver and blocks blood flow
Neurological Consequences

- Impaired vision and motor coordination
- Memory defects
- Hallucinations
- Blackouts
- Seizures
- Permanent brain damage
Short Term

- Blackouts
- Hangovers
- Cognitive dysfunction
- Impaired vision
- Impaired motor coordination
- Sleep disturbance
- Suicide attempts
- Risky sexual behavior
- Risk for HIV infection/STDs
- Seizures
- Apathy
- Introversion/antisocial behavior
- Inability to concentrate
- MIP/DWI/DUI

**Alcohol poisoning:** a severe and potentially fatal physical reaction to an alcohol overdose.
- It's common for a person who has consumed too much alcohol to vomit because alcohol is a stomach irritant
- Alcohol acts as a depressant and shuts down involuntary actions such as breathing and the gag reflex that prevents choking
Long Term

- Impaired intellectual development and academic performance
- Alcohol dependence
- Cirrhosis of liver
- Certain cancers: kidneys, mouth, throat
- Major depression
- Memory defects
- Permanent brain damage
- Elevated blood pressure and heart rate
- Risk of stroke
- Heart failure
- Damage to GI tract
- Suppressed immune function
So Why Do People Still Drink Alcohol (or not)?

- **Peer pressure**
  - teens want to feel accepted within a group

- **Family**
  - parents who discourage and avoid the use of alcohol are more likely to have teens who do the same

- **Media messages**
  - make alcohol use appear exciting, attractive, and fun
LESSON 11: ALCOHOL PSA

| STANDARD: Health Education Content Standard for California Public Schools |
| Grades 9-12 : Alcohol, Tobacco, and Other Drugs. |
| Standard 1: Essential Concepts |
| Standard 2: Analyzing Influences |
| Standard 3: Accessing Valid Information |

**OBJECTIVE**: Students will create a one minute public service announcement that would be played on the radio to educate others on the effects of alcohol.

**PRIOR KNOWLEDGE**: Students will need to understand the consequences of alcohol use in order to choose an appropriate topic for their PSA.

**MATERIALS NEEDED**:

1. Alcohol PSA document
2. Access to computers with internet
3. Sample PSA’s (If available)

**Time Frame**: 3 class periods

**LESSON PROCEDURE**:

1. Begin class by distributing the Alcohol PSA assignment. Review the objectives of the assignment, and the possible topics with students.
2. Preview sample PSA’s with students to show appropriate and quality work.
3. Allow students to work alone or in pairs and select a topic for their PSA.
4. Approve any topics that are not on the list.
5. Allow students time to research their topic and develop their PSA.
6. Students will perform the PSA for the rest of the class through the use of either a written script, audio file, or video.

**EVALUATION**: Assess students on their ability to create awareness for their selected topic.
ALCOHOL PUBLIC SERVICE ANNOUNCEMENT (Health 9)

Directions:

You will work alone or with a partner. Select one of the topics listed below, or choose one of your own, and research the information using the library. After the library research, create a one minute public service announcement that would be played on the radio. You should write (type) a script and read it to the class. It should be within a few seconds of 60 seconds long so practice timing yourself. You may also create an audio or video file.

* DUI  
  *Alcohol and Violence  
  *Alcohol and Sex  
  *Alcohol and minors  
  *Alcohol and relationships  
  *Alcohol and the brain  
  *Short term effects  
  *Long term effects  
  *Binge Drinking  
  *Fetal Alcohol Syndrome
LESSON 12: GLENCOE CHAPTER 21

<table>
<thead>
<tr>
<th>STANDARD:</th>
<th>Health Education Content Standard for California Public Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 9-12: Alcohol, Tobacco, and Other Drugs.</td>
<td></td>
</tr>
<tr>
<td>Standard 1: Essential Concepts</td>
<td></td>
</tr>
<tr>
<td>Standard 2: Analyzing Influences</td>
<td></td>
</tr>
</tbody>
</table>

OBJECTIVE: Students will have an understanding of alcohol, its effects on the body, influences, and consequences of its use.

PRIOR KNOWLEDGE: None

MATERIALS NEEDED:

1. Glencoe 2011 Health textbook
2. Access to computers with internet
3. Chapter 21 worksheet

Time Frame: 1 hour and 30 minutes

LESSON PROCEDURE:

1. Distribute the Chapter 21 worksheet and allow students to either use the in class textbook or access the text online.
2. Upon completion of the worksheet, students should complete the Chapter 21: Health Inventories exercise by accessing the following website: http://glencoe.mcgraw-hill.com/sites/0078913284/student_view0/unit7/chapter21/health_inventories.html
3. Once students complete the exercise, they should view their results and proceed to the Personal Wellness Contract link at the bottom of the page.
4. Students should complete this contract, print it, and bring it to class the following day.

EVALUATION: Students will be assessed on their completion of the Chapter 21 worksheet and their Personal Wellness Contract.
1. What is intoxication?

2. How do some media messages encourage alcohol use?

3. __________ is the legal age to buy, possess, or consume alcohol.

4. Why is alcohol use and sexual activity a dangerous mixture?

5. State three percent statistics about alcohol.

6. How does alcohol abuse by family members hurt young people?

7. Where in the body is alcohol broken down?

8. What is the multiplier effect?

9. Why do females become intoxicated faster than males?

10. While drinking, blood vessels _____________ and body temp. ____________.

11. What are four ways that drinking impairs driving?

12. Each day at least ____________ teens are killed in alcohol related crashes.
13. What is binge drinking?

14. Binge drinking often leads to what serious drinking problem?

15. What are some ways you could die from alcohol poisoning?

16. What is a fatty liver?

17. What is cirrhosis?

18. What does FAS stand for? What problems does it cause?

19. What is an alcoholic?

20. Describe 2 characteristics for each of the 3 stages of alcoholism.

21. About __________ percent of violent crimes are alcohol related.

22. What is codependency?

23. Can alcoholism be cured?

24. What is sobriety?
# LESSON 13: ONLINE FINAL ASSESSMENT

| STANDARD: Health Education Content Standard for California Public Schools Grades 9-12: Alcohol, Tobacco, and Other Drugs.  
Standard 1: Essential Concepts  
Standard 2: Analyzing Influences |
|---|

**OBJECTIVE:** Students will demonstrate comprehension of the tobacco, drug, and alcohol unit through a summative online assessment.

**PRIOR KNOWLEDGE:** Students will need to understand all key terms, effects, consequences, and influences of tobacco, alcohol, and drug use.

**MATERIALS NEEDED:**
1. Access to computers with internet
2. Final Exam

**TIME FRAME:** 1 hour

**LESSON PROCEDURE:**
1. Teacher should make the exam available online for students to complete in class.
2. See final exam questions.

**EVALUATION:** Students will be assessed on their final score earned on the exam.
Drug Exam

Multiple Choice and True/False (20 points total)

Complete this portion on scantron. Do not write on this!!!

1. Methamphetamine, cocaine, and caffeine are all:
   a. stimulants  b. depressants  c. hallucinogens  d. inhalants

2. What does BAC stand for?
   a. body alcohol concentration
   b. blood alcohol content
   c. blood alcohol concentration

3. A ______________ slows down the central nervous system
   a. stimulant  b. cigarette  c. depressant  d. BAC

4. A condition in which the body becomes used to the effects of a medicine is known as:
   a. addiction
   b. tolerance
   c. alcohol poisoning
   d. mixing medicines

5. At what BAC does death occur?
   a. .4-.5  b. .08-.10  c. .04-.05  d. 4.0- 5.0

6. Second hand smoke is also known as:
   a. Mainstream  b. sidestream  c. tolerance  d. repeated

7. What is the path of alcohol?
   a. stomach, mouth, small intestines, bloodstream, liver
   b. mouth, stomach, small intestines, bloodstream, liver
   c. mouth, stomach, bloodstream, small intestine, liver
   d. mouth, small intestine, stomach, liver

8. What is the addictive ingredient found in tobacco?
   a. cyanide  b. marijuana  c. tar  d. nicotine
9. Where did the meth epidemic begin?

10. Which organ is responsible for breaking down or metabolizing alcohol?
    a. liver  b. bladder  c. kidney  d. pancreas

**True/False**

11. ________ Mixing medicine is an example of medicine misuse

12. ________ The answer to #7 on the Tobacco Mindjogger was 60%

13. ________ Males and females have an equal tolerance to alcohol

14. ________ A depressant stimulates the central nervous system

15. ________ Leukoplakia is a long term effect of drinking

16. ________ The active ingredient in marijuana is THC

17. ________ Blacking out is when a person passes out from drinking too much

18. ________ Oxycontin is a painkiller

19. ________ It is ok to share your pain medication with someone who needs it

20. ________ Heroin is a stimulant

**Short Answer**  (25 points possible)

21. List 5 factors that will affect a person’s BAC (5)

22. What is the legal BAC for a driver over and under the age of 21? (2)
23. What is binge drinking and give two reasons why is it dangerous? (3)

24. Using needles to inject drugs may cause which two diseases? (2)

25. What is considered “1” drink? Give 3 examples. (3)

26. List 3 short term and 3 long term effects of alcohol (3)

27. What is a rainbow party? (2)

28. Name the two common date rate drugs (2)

29. What does FAS stand for and what problems does it cause? (3)
REFERENCES


