

Science/Technology and Society for a Pre-engineering Magnet

By

Carol Petett

Taylor Allderdice High School

Purpose:

The purpose of this unit is to develop an interdisciplinary (Science, Applied Technology and Civics) first year course for students entering the Pre-engineering Magnet at Taylor Allderdice High School in Pittsburgh. This course will be housed within the framework of the ninth grade Civics program. The Civics course will provide the material on government, the Constitution, and the rights and responsibilities of citizens and apply that information to a better understanding of the changing definition of citizenship within the United States. We will focus on the 14th Amendment and the “equal protection under the law clause” which was the basis of the *Brown vs. Board of Education of Topeka, Kansas* case of 1954. With this case we will see the definition of citizenship broadening to include more people, from racial minorities to the physically challenged included in this new definition of citizenship. Students will be encouraged to use both traditional and emerging library technologies to explore census materials which reflect who is counted in the population today and the roles played by education and technology on income, education and housing. The culminating activity in this unit will focus on the scientific and technological advancements from the end of World War II to today and the impact on society including the redefinition of citizen and with it the changing complexion of the work place. Students attending the Pre-engineering Magnet also reflect this same population mix and will need to work in groups or teams throughout their educational experience at Allderdice therefore it is incumbent that a program be developed which supports and provides opportunities for students to work together. This will be addressed by assigning students to work in groups of no more than three students to research technological advancements from the 1950’s through today and their impact on society. All student reports will be both oral and written with additional electronic or traditional presentation methods used.

Narrative

For a number of years, beginning in the 1979-1980 school year, the physics and electronics teachers at Taylor Allderdice have worked closely together to develop an integrated learning experience for students. This program was to combine an electronics program with physics. Both teachers used labs in their daily teaching activities; therefore, it was not uncommon for them to look outside their discipline for additional enrichment activities.

The purpose of this collaborative was to encourage more students to take physics as an applied science to give them a broader knowledge base upon graduating high school, and also to help bridge the achievement gap between students in an extremely diverse urban school. The teachers, physics and electronics, who developed this collaborative were committed to the belief that students from these diverse environments could only benefit

from working together in teams on developing problem solving strategies from different perspectives. With this approach to teaching and learning the standards for students in the vocational education programs would be raised through the physics curriculum. Also those students in the accelerated programs would give practical applications to the knowledge gained from their academic programs apply the knowledge gained from their academic classes. Thus creating an enriched learning experience for more students.

The vocational program would provide the practical application of the rules of physics and physics taught the laws behind the application. The physics course was rewritten as an “Applied Technology Course” which used computers from the electronics course for lab experiments. Eventually, this teacher driven collaborative would become the basis for a pre-engineering model to be developed later.

As the Tech Prep Model in vocational education developed additional courses were created including Tech Prep English II, CAD (Computer Assisted Drafting), and eventually Social Studies. The Social Studies model was to emphasize the duties and responsibilities of good citizenship including teamwork. Along with the Tech Prep Model came a closer relationship with local community colleges. This relationship was to encourage graduating seniors to enroll with these institutions and continue their technical programs at that level. Once enrolled, students could pursue either an associate degree and obtain a certificate of mastery in an area of technology and enter the labor force or transfer to a four- year school for their undergraduate degree.

However, we immediately ran into problems. Due to the designation of the physics course as Applied Technology, students enrolled in the course found that upon graduating and entering schools offering the baccalaureate degree, they had to return to school and request a letter stating that the course was indeed a physics course with the same standards and requirements of any other high school course in physics. On more than one occasion a course syllabus as well as letters and phone calls from the physics teacher, counselor and principal were requested to verify the course as physics. In at least one case a student was not given credit for his high school physics course. This was based solely upon the name of the course and the fact that it was associated with an electronics course.

At the same time we discovered that although the course taught at Allderdice was not designed originally to be a Tech Prep course, the name, “Applied Technology”, provided colleges and universities with the perception that this was a Tech Prep program. Again, at this time this model was designed primarily to prepare students to enter the Community College System. Four-year schools suffered the belief that these students were primarily vocational education students in need of remedial work and not prepared to enter a college or university and undertake the rigors of their curriculum. This was the status of the program in the 1993-1994 school year when I was invited, as the social studies teacher, to become a part of the program.

Bob Weslowski, at this time both the lead teacher and physics teacher, had spoken to me on numerous occasions about the need to change the culture of the school to meet the

needs of the changing economy of the area in which we worked. The only way this could be done would be by providing students in all tracks with the same challenges and high academic standards we expected from our most talented students. The steel mills, which had covered miles of riverfront property, were being leveled leaving vacant expanses of land. Open-hearth furnaces were being dismantled leaving thousands of workers throughout the Mon and Ohio River valleys to mourn their demise. No longer would thousands of workers who supported their families make their living in these valleys. These men had worked in the mills for twenty years or more as their fathers and grandfathers before them had done. Soon they found themselves unemployed with no way to make a living and support their families in the style to which they had become accustomed. These people bought homes; sent their children to college; paid taxes; and were contributing members to their churches and local communities. Many of our students were their children and grandchildren, although not all. In this diverse urban school we had students whose parents were professionals and a part of middle management. These students talked about the effect upon their families, which was also brought about by the closing of the mills in the area as well as other significant economic changes in the region. Now we all understood the connection between the mills and the economy of the entire region. Many students were troubled by the uncertainty of their future. Students told us that they would go to college and could never return because there were no jobs or opportunities awaiting them. We could not argue this point with them; all they need do is look around the Mon Valley and see the many communities left devastated by the closing of the mills. With every year the certain demise of the region was more in evidence. Students doing social studies projects in which they compared "older Mon Valley communities" with new emerging communities felt that their beliefs of a declining region offering no opportunities were validated. It was felt that a social studies course should be included into the Tech Prep curriculum to help students understand that the region had undergone change many times in its past and that it was not dying but undergoing a dramatic social and economic change. The Pittsburgh region would redefine itself and survive, but in order to do so young people would be needed with skills and a sense of the future and their place in it. The schools would need to focus on young people as our most precious resource and direct curriculum to develop them.

As educators we were committed to help this process along by developing programs we felt would better prepare students to meet what they felt was an uncertain future.

With the beginning of the 1995-1996 school year I was asked to develop a School-to-Work program from the model that had previously existed. I, nor anyone else, had any idea what School-to-Work was. I was advised by my building principal to find out what it was, educate staff and develop programs. We did.

I would have a period every Wednesday morning to meet with a group of from the academic and vocational areas so to brain storm and define our STW initiatives. Teachers attending these meetings would have their classes covered by other staff members so that they could attend. I was to provide a meeting summary after every meeting for the principal, vice-principals, counselors and staff in attendance as the general staff. As we learned and developed, we invited more teachers into our midst.

Another group of teachers, in addition to the Wednesday planning group, was selected. These teachers represented all of the academic disciplines. All of these teachers were currently teaching in the Advanced Placement curriculums within their content areas. This was done consciously so that all teachers could have ownership in raising the academic standards of all students. This was not to be a program designed for and by an elite group but was to become a teacher driven project true to the needs of all students. This format encouraged informal dialogue amongst teachers regardless of their area of certification. As a staff we singularly began to investigate the needs of students entering (eventually) as we approached the next century. The added plus provided teachers in a purely academic setting with the opportunity to investigate integrating technology into their classrooms as an enriched learning experience for all students. These teachers were invited to all planning meetings but due to their teaching assignments were rarely able to attend meetings. However, they were to receive all meeting summaries and share this information with their departments in informal conversations over lunch. The principal provided subscriptions to educational journals and topics for the staff to read. Members of the planning committee took it upon themselves to research professional articles for the entire general staff. We wanted to inform all teachers of the events in the planning sessions, discuss questions and raise issues for meeting agendas.

In the fall of the 1994-1995 school year I had been asked to attend planning meetings with the local School-to-Work partner (SPIRC) to find out how we could interact with them. At that time SPIRC was working with Bidwell (job-training center) and CCAC to develop a program for chemical technicians which were in high demand in the chemical industry. To allay fears that business and industry were dictating their ideas to the schools partnerships were formed in which teachers were invited to review industry standards and re-align curriculum with actual job descriptions. Suggestions were made to the schools that all students should have better oral and written communication skills. Teachers were able to look at their curriculum and define ways in which this was being done or include more opportunities within their curriculum for these activities to occur. Most teachers were surprised to learn that business and industry wanted the same things for students that we wanted. For example, business and industry suggested that the high school chemistry curriculum provide more activities on organic chemistry and then willingly helped teachers do this by helping teachers develop a curriculum and activities which would easily incorporate this into their curriculum. Those teachers taking part in this exchange with business brought this information back to their building and shared this with their colleagues.

In the spring of that year these same teachers were invited to attend a STW presentation for the Chem.-Tech program sponsored by SPIRC (our local School to Work partner) Bidwell (local job training program in partnership with the Pittsburgh Public Schools) and local chemical industries.

We visited local chemical plants, PPG Industries, and Pressure Chemicals. We met and talked with chemical technicians and people in Human Resources. They convinced us that the workplace had changed drastically since the time we had entered

the job market. Employers demanded more from their employees. Math and communication skills were needed now more than ever. Employees as well as people in industry stated over and over again that math skills were the key to the future. They strongly suggested that Algebra I be the minimal entry-level course for all students regardless of track. They supported this by saying that jobs in the future would be technological in nature and those students with math skills less than algebra would not have the same career opportunities as those would with better math skills. We felt totally vindicated as this had been implemented the previous school year and had included a math lab, PUMP (Pittsburgh Urban Math Project) to support students whose math skills needed additional support.

Chemical Technicians themselves gave us first hand reports of their frustrations upon graduating high school with finding the right career path to take which would lead to meaningful work and opportunities to further their education. Many of these young people, now in their mid to late thirties, had tried a variety of occupations before becoming aware of the need for chemical technicians and the benefits they enjoyed, such as continuing education programs.

Human Resources people told us that the need for a Ph.D. was no longer as great as it once had been. Hiring practices had changed and the emphasis was on training people in the industry model to perform tasks needed by that industry so that they could better compete in a global economy. Industry also saw employees as human capital they should invest in through continuing education programs which could lead to advanced degrees in chemistry and engineering. We were told over and over in our visits that industry was not dictating to us what to teach in the schools. But to hold all students to a good citizenship standard and provide them with more opportunities to present oral reports in class, and they would do the rest. We heard this message loud and clear during the entire visit.

When visiting Bidwell Training Corporation we were informed that they were now offering an Associates Degree in Chemical Technology in a twelve month program because the demand for these credentials were so great.

We discovered later that year that students currently entering a two year program at a Community College took four years to complete their course of study due to their need to take up to two full years of review work before they could begin their program. Upon hearing these teachers were educated to the role we played in the real world as participants in a global economy, which relied on the contributions of all people, not just a few. We now had jobs, people, and opportunities to educate our students about so that when we heard of raising the standards we saw tangible reasons for doing so. This was the message each one of us brought back to our building and enthusiastically discussed with our colleagues. We understood as a staff, the need to re-structure.

We began planning in earnest. We began immediately with writing a proposal to Pittsburgh Common Knowledge for a grant to have a portion of the building wired for the business department, so that they could teach their curriculum in communications

technology. We visited local school districts and developed a computer writing lab for English teachers. Local libraries were visited to see how to set up a school library as a media center. Teachers representing all disciplines from foreign language to industrial arts began to talk about the meaning of providing hands on learning experiences to all students. The industrial arts teachers wanted to create an audio visual lab to provide services to the entire school to train teachers in their technology so that students would become familiar with PowerPoint presentations. Homework clubs were started to help students with problems in content areas where they could work one on one with staff after school. Foreign language, social studies and business teachers talked of creating an integrated course in International Business and Travel and Tourism. Meetings were scheduled with Robert Morris College to determine the feasibility of such a course. We contacted national programs in Travel and Tourism to discuss their programs. I met with representatives of local foundations who talked explicitly about the need for these same programs discussed we had discussed in our building.

We also met with industry leaders from manufacturing. They too looked to educate teachers to the changes in manufacturing. We as teachers within the academic disciplines continued to define manufacturing as labor intensive rather than technologically based. We were educated to the fact that manufacturing in the Pittsburgh area was still a very large component of the region's economic base placing second in overall job categories. The difference was that manufacturing jobs were located in small factories, like the one my father had worked in, rather than the large mills associated with the steel industry. The manufacturing teacher and I were invited to work with industry people to write the academic standards for manufacturing technology which included all academic disciplines as well as the applied technologies. We did and began to see again how the standards came together to educate the whole student.

By late spring we were asked to submit a proposal to become a Magnet-program in Pre-engineering. The emphasis was to be on narrowing the achievement gap between black and white students within our student body.

We were accepted as a Magnet program and began to write curriculum. The first course we wrote was for the Social Sciences and entitled Science, Technology and Society.

The Science, Technology and Society, course was designed as a social studies course to take the place of the current Civics curriculum currently taught in ninth grade. It is to be integrated with science and technology courses to give students a better understanding of the relationship between science and technology and the impact of both on society. The course is to stress technological change and advancements beginning with the 1950's and the impact of those changes on society. As we move from old technology associated with heavy industry to new technology associated with microchips it is our intent to educate students to the changing world around them and their place in it.

The emphasis in this course should be on writing, research, oral and written presentations using a variety of resources and media, and group projects. It is felt that by using this

format of integrating the academic and applied technology classrooms we can give students a better understanding of the relationship between these areas of study. By inviting teachers to write the academic standards for the Chemical and Manufacturing industries we were able to identify and include those components suggested in meetings with business and industry.

The course Science/Technology and Society is to be taught to incoming freshmen students enrolled in the Pre-engineering program in an eighteen-week block schedule. At the end of that eighteen week period students are to take another eighteen week block in which they investigate a variety of topics in the applied technologies using the same group work concepts of writing reports, and developing problem solving strategies to complete a variety of projects.

The Main Objectives of the Civics Course:

This course of study is structured around topics considered vital to the development of good citizenship. Emphasis is placed on helping students develop both an appreciation of the many rights they enjoy as American citizens and an understanding of those rights which in a Democratic Society is both the duty and responsibility of each citizen to cherish and protect. The emphasis here is that our duties and responsibilities as citizens make possible the rights and freedoms we enjoy and are included in the areas of study for this course:

- Duties and responsibilities of American Citizens
- The Rights and Freedoms of American Citizenship
- American Government
- The American Political System
- The American Economic System
- The American Legal System

Because certain Civics skills are required of all students to become good citizens, the course attempts to emphasize the following learning activities:

- Developing the ability to think, discuss and write critically.
- Use newspapers, library resources and primary materials
- Develop such “life skills” as writing checks, registering to vote, filling out job applications, reading want ads, reading labels and understanding warranties.
- Promote cooperative behavior by utilizing group activities
- Participate in “critical thinking” discussions.
- Utilize correct library reference skills and proper research techniques in the presentation of assignments.
- Employ proper skills and habits in the completion of research and classroom tasks.
- Interpret the demographic profile of American Society.
- Explain the functions of selected institutions in the political and legal processes of the United States.

All ninth grade students entering the Pre-engineering STS course will be expected to meet the following daily requirements:

- Attend class and participate in class discussions, note taking, readings etc.
- Keep a notebook, which will be checked periodically by the teacher.
- Complete all homework assignments on time.
- Complete class and individual projects on time.
- Pass quizzes and tests.
- Take part in other learning activities, which are a part of the class.
- Bring books and notebooks to class daily.

Civics Topics in the eighteen-week STS course:

- A. An Introduction to Government
 - Values of a Democracy
 - The Declaration of Independence
 - Our Constitution
 - Our Federal System
 - The Three Branches of Government
 - Values in the Bill of Rights and the Constitution
- B. The American Political Process:
 - Rights of Voters
 - The Role of Political Parties
 - Electing a President
 - Lobbyists and Interest Groups
- C. Federal, State and Local Governments
 - The Senate and the House of Representatives
 - The Powers of Congress
 - The Major roles and powers of the President
 - The role of the Cabinet and the Executive Agencies
 - State and Local Government

Grading Rationale:

- Class participation
- Written and oral reports
- Individual and group projects
- Essay writing
- Homework assignments
- Class preparation

- Satisfactory completion of teacher made quizzes and tests
- Satisfactory completion of any and all other class assigned work

Topics relating particularly to the Science/Technology/Society Civics course for pre-engineering:

The social studies course will begin with discussions defining science and technology. An overview of the growth of technology up to World War II will be presented in the form of videos and CD-ROMs. Lessons will be presented reflecting the change from an agricultural based economy based on cheap labor (slavery) to an industrial based one also base on the use of cheap labor (immigrant). Students will study the Constitution with special emphasis on the Civil Rights Amendments and the Constitution as a Living Document. The main body of the curriculum will trace the evolution of science and technology brought about as a result of WWII and the Cold War, which followed. Students will learn the impact of it on American Culture. Major events from the early history of the nation will be studied and presented to demonstrate through student research the inter-relatedness of Science and Technology on the social development of the young nation.

Strategies:

Students will gain knowledge by being active participants in both their instruction and learning. Both oral and written presentations will be prepared. Students may work in groups or individually, depending on projects, and report their findings to the class.

Student developed rubrics will be used to develop student work. Students will develop these scoring rubrics to evaluate their own work as well as the work of other students. In this way it is hoped that they will work to encourage each others' work in a non-threatening manner to create an environment which would foster group work, critical thinking and an opportunity to share ideas with their fellow students. Students will be encouraged to videotape their presentations to critique their own performances.

Students will be instructed in the use of various methods of research and technical presentations with special emphasis on the use of current technologies.

Students will use personal journals for writing reflective pieces on what has been learned.

Students will keep a record of achieved standards as required by the Pittsburgh Public Schools.

Teacher Topics will include the following:

- The end of WWII and the Bomb
- The Cold War
- McCarthyism
- Major Scientific Innovations (integrated with science classes)

- Major Technological Innovations (integrated with technology classes)
- *Brown vs. The Board of Education of Topeka, Kansas*
- Desegregation of Little Rock Arkansas Public Schools
- Fear of Communism and world revolution
- The Birth of the Domino Theory
- French Indo China
- Espionage—The Rosenberg Trial

Possible student research topics:

- The effects of TV on group think
- Early 1950's technology
- Family Life viewed through television
- Civil Rights

Classroom activities:

- Portfolio introduction – Core Curriculum Frameworks
- Portfolio updates with reaction statements
- Begin a time line of technological advancements
- Introduce writing rubrics
- Introduce buddies to science and technology teachers.

Project Criteria:

- All student projects are to be both written and oral
- All research should be in the form of interviews, library and or internet research
- Students should present unique material in the format of their choosing (charts, graphs, multi-media presentations etc.)

The following is a list of the Core Curriculum Frameworks addressed in this course:

Citizenship:

1. All students demonstrate an understanding of major events, cultures, groups and individuals in the historical development of Pennsylvania, the United States and other nations, and describe themes and patterns of historical development.
2. All students demonstrate their skills of communicating, negotiating and cooperating with others.
3. All students demonstrate that they can work effectively with others.
4. All students demonstrate an understanding of the history and nature of prejudice and relate their knowledge to current issues facing communities, the United States and other nations.

Science and Technology:

5. All students explain the relationships between science technology and society.
6. All students evaluate advantages, disadvantages and ethical implications associated with the impact of science and technology on current issues and future life.
7. All students demonstrate basic computer literacy, including word processing, software applications, and the ability to access the global infrastructure, using current technology.

Environment and Ecology:

8. All students think critically and generate potential solutions to environmental issues.

Communications:

9. All students use effective research and information management skills, including locating primary and secondary sources of information with traditional and emerging library technologies.
10. All students respond orally and in writing to information and ideas gained by reading narrative and informational texts and use the information and ideas to make decisions and solve problems.
11. All students exchange information orally, including understanding and giving spoken instructions, asking and answering questions appropriately, and promoting effective group communications.

Mathematics:

12. All students evaluate, infer and draw appropriate conclusions from charts, tables and graphs showing the relationships between data and real world situations.

The pedagogical style of this course will use the teacher as a facilitator. As this course is event driven, the chronology will stress the social changes brought about by scientific and technological developments of the era.

Preparation and Presentations of Research Topics

Since students' abilities to research topics are so diverse classes will be scheduled to the library (for a period of three days or up to one week depending on their needs) at the beginning of each semester to learn how to use traditional and emerging library technologies. Students will be introduced to the *Readers' Guide to Periodical Literature* and any other traditional sources the library has available. During this time all students will be assigned a mini research project which will be written and presented orally to the class.

Prior to their presentations of their first research unit and to encourage the use of emerging technologies, students will be scheduled to the computer lab for an Introduction to PowerPoint for Windows 95. This presentation will last from 3 days to one week again depending on needs of the students. Topics to be covered in these sessions will include the following:

- Introduction
- Getting Started
- Filenames
- Power Point Views
- The Tool Palette
- Toolbars and Ribbons
- Templates
- The Slide Master
- Creating a Slide Presentation
 - Pick a Look Wizards
 - Lesson 1: Creating the Outline
 - Lesson 2: Changing the Template
 - Lesson 3: Viewing the Slides
 - Lesson 4: Including Graphics in the Presentation
 - Lesson 5: Building the Text in the Slides
 - Lesson 6: Power Point Clip Art
 - Lesson 7: Adding Charts to the Presentation
 - Lesson 8: Placing Graphics on Slides with Text
 - Lesson 9: Creating Transitions
 - Lesson 10: Adding a New Slide
 - Lesson 11: Creating Note Pages
 - Lesson 12: Printing Presentations
 - Lesson 13: Quitting PowerPoint
 - Lesson 14: The Viewer
 - Lesson 15: Using Power Point Help

These activities will run simultaneously with the Civics course. The initial library research will coincide with units 1 and 2 in the Civics curriculum. The Power Point presentations will run simultaneously with (at least) units 3 and 4 in the Civics

curriculum. All of these units named may be amended. Prior to their visit to the library students will receive a syllabus of the materials covered in units 1 and 2. This will include the objectives, readings, and activities and assessment topics they will be responsible for during this time frame. After the scheduled library activities the class will return to the classroom for Civics instruction and assessment. At the completion of this task students will present their mini-research projects using traditional library resources. These activities may be repeated and reviewed if necessary.

The Pittsburgh Teachers Institute

During the spring of 1999 I attended the Pittsburgh Teachers Institute held at Chatham College in Pittsburgh. The seminar I took was “ American Culture in the 1950’s” run by Dr. John Groch. I selected this seminar because of the emphasis on American culture which I needed to develop the scholarship of the STS course for the Pre-engineering Magnet. The seminar provided me with an extensive reading list that I will use as ready reference to provide students with the necessary background for their research projects. As a result of the seminar I feel better equipped to act as facilitator in directing student research on the 1950’s which should help to offset any frustrations they may encounter in their projects. This reference material from the seminar will also allow students to question the role of played by mass media in forming public opinion. As a result students should be encouraged in their role as citizens to take a more active role and use critical thinking skills to be informed and question the world around them. Students should particularly question why the 1950’s are considered such a perfect decade and why popular culture glorifies this time period.

Students participating in the STS course will be just 14 years old and entering their freshmen year in high school. They know only what is seen on television about the 1950’s and readily assume that life was indeed “perfect”. The television programs on “Nick at Night “ and other 50’s era sitcoms are their frame of reference and they have nothing to compare the media image to. Also contemporary films, TV sitcoms, and political views often compare this “perfect world of times gone by” to the world today. The world of their childhood is seen as a “time of chaos, violence, drugs, hopelessness and despair” for many students today. Often students, when confronted with the views on contemporary society despair and give up any dreams they may have had for their future. By focusing on societal issues of the 1950’s we can look beyond the TV images and learn that the fifties was not a perfect era in the history of the United States or the world. Students will learn that this was a time of poverty, unemployment, disease (polio) and disenfranchisement for many American citizens today. Students will be encouraged to ask questions, research and learn from teacher presentations or read scholarly excerpts like the Documents in William H. Chafe and Harvard Sitkoff eds., *A History of Our Time: Readings in Postwar America*, 4th ed., about “Anti-Communism and Blacklisting in the 1950’s” to come to a better understanding of this time.

For student questions that need further clarification and background material on the make up of the population of the United States during the 1950’s the seminar provided

information from Richard Polenberg's, *One Nation Divisible: Class, Race and Ethnicity In the United States since 1938*. I will use these materials for presentations on defining the rights, duties, and responsibilities of citizenship as well as a presentation to address the equal protection under the law clause of the 14th Amendment.

To refute the image of the 1950's as a time in which African Americans were docile and not fighting for their civil rights I will refer, in my lesson presentations when appropriate to the readings of Harvard Sitkoff, *The Struggle for Black Equality* and the readings in William H. Chafe and Harvard Sitkoff, eds., *A History of Our Time: Readings in Postwar America*, 4th ed. and lastly the definition of motherhood determined by race from Ruth Feldstein, "I Want the Whole World to See": Race, Gender and the Construction of Motherhood in the Death of Emmett Till," in *Not June Cleaver: Women and Gender in Postwar America*.

For new and realistic views of the fifties families I will refer to Stephanie Coontz, "'Leave it to Beaver' and 'Ozzie and Harriet': American families in the 1950's," in *The Way We Never Were: American Families and the Nostalgia Trap*. I will also refer to Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* and lastly Deborah A. Gerson, "'Is the Family Now Subversive?' Familialism Against McCarthyism," in *Not June Cleaver: Women and Gender in Postwar America*.

I will use as references, provided in the seminar, to address questions students may have on "why popular TV and movie views of the 1950's are different from the reality of the time" the readings of Joanne Meyerowitz, "Beyond the Feminine Mystique: A Reassessment of Postwar Mass Culture, 1946-1958," in *Not June Cleaver: Women and Gender in Postwar America* and readings from Susan M. Hartman, "Women's Employment and the Domestic Ideal in the Early Cold War Years," in *Not June Cleaver: Women and Gender in Postwar America*. To show that women differed from the TV moms of the 1950's I will use readings from Harriet Hyman Alonso, "Mayhem and Moderation: Women Peace Activists During the McCarthy Era," in *Not June Cleaver: Women and Gender in Postwar America*.

I will use as reference for questions on poverty and living conditions in the urban areas readings from Michael Harrington, *The Other America: Poverty in the United States*.

I will use as reference to questions concerning the impact of TV on the family of the 1950's readings from Lynn Spigel, *Make Room For TV: Television and The Family Ideal in Postwar America* and readings from Horace Newcomb, "The Opening of America: Meaningful Difference in 1950's Television," in *The Other Fifties* and lastly readings from Donald Weber, "Memory and Repression in Early Ethnic Television: The Example of Gertrude Berg and the Goldbergs," in *The Other Fifties*.

As stated previously the Pittsburgh Teachers Institute has provided me with the opportunity to research this time period so that I could produce a better planned and referenced curriculum unit for students in the Pre-engineering Magnet.

Civics Unit Overview

The following will provide overviews of the units to be covered in the Civics portion of the STS program using the text by David C. Saffell, pH. *Civics Responsibilities and Citizenship* 2000 edition Glencoe/McGraw-Hill.

Unit 1 Foundations of American Citizenship (Chapters 1,2):

Unit 1 will examine the idea of citizenship, discuss the reasons for government, and explore what it means to be an American citizen. It also traces the origins and development of democratic institutions—from the Greek City states, through British common law and parliamentary government, to the early legislatures of colonial America.

Unit 2 Blueprint for a New Nation (Chapters 3, 4):

Unit 2 describes the conflicts and compromises of the delegates to the Constitutional Conventions they tried to forge a new national government. It also describes the struggle to ratify the Constitution. The unit explains how the Framers of the Constitution implemented the principles of popular sovereignty, limited government, federalism, and separation of powers and how they added the Bill of Rights to state the rights of individuals. Unit 2 concludes by explaining how additional constitutional amendments have extended the Americans' rights.

Unit 3 Citizenship: Rights and Responsibilities (Chapters 5, 6, 7, 8)

Unit 3 describes the rights of Americans in detail, especially those rights that have been broadened through constitutional amendment, legislation, and court interpretation. The unit also notes the necessary limitations on individual rights for the welfare of the community as a whole. The unit then focuses on the rights of citizens to participate in political parties, vote and express their opinions on government policies. It emphasizes that these are not only rights but are also responsibilities. To ensure the continuation of democracy in this country, Americans must constantly involve themselves in government.

Unit 4 The National Government (Chapters 9, 10, 11, 12)

Unit 4 introduces the three branches that make up the national government, discussing the special responsibilities of each branch and how all the branches work together. It also outlines the qualifications for government officials such as congresspersons, the President and Vice President, and federal judges. The unit provides historical background about each branch, highlighting individuals and events that played key roles in shaping U.S. democracy. It also raises important questions about the current challenges the

government faces—a growing population, complex national and global needs, and increasing demands on the nation’s resources.

Unit 5 State and Local Government (Chapters 13, 14, 15)

Unit 5 begins with a review of the federal system of government, in which the national and state governments share power. It discusses the powers and organization of state governments in detail. The unit then moves on to a description of county, town, and city governments. Whereas state governments resemble the federal government in structure, local governments vary widely from place to place. The unit emphasizes the important role of local governments in providing services. It concludes with an examination of social and environmental issues facing local governments.

Unit 6 Law and the Individual (Chapters 16, 17)

Unit 6 examines the relationship between law and the individual. It begins by explaining the purpose of laws, the characteristics of good laws, and types of laws. It discusses ancient law codes, English common law, and other sources of modern laws. The unit then outlines the legal rights of Americans—especially the legal rights of persons accused of a crime. It also emphasizes that Americans must fulfill basic legal responsibilities—such as cooperating with law enforcement officials and serving on juries—to maintain their legal rights. The unit reviews civil and criminal cases and describes types of civil cases and types of crimes. Finally the unit explains court procedure for handling civil cases, criminal cases, and juvenile cases.

Unit 7 The Free Enterprise System (Chapters 18, 19, 20, 21)

Unit 7 introduces basic economic principles and contrasts the U.S. market economy with other economic systems. Focusing on the free enterprise system, it explores ways in which the government regulates many aspects of economic activity to protect the consumer and to assist businesses. It goes on to explain how our government is financed and how it budgets its money. The unit concludes with information that can help readers manage money prudently and seek consumer protection.

Unit 8 The United States and the World (Chapters 22, 23, 24)

Unit 8 looks at the relationship of the United States to other countries of the world. It compares the government of the United States with the governments of Great Britain, Russia, Japan and Mexico. Then the unit discusses how U.S. foreign policy is formulated and conducted. It describes the role of the United Nations in promoting peaceful relations among countries and the foreign policy challenges facing the United States today. The unit examines the economic and environmental interdependence of the United States and the rest of the nations of the world. Finally, the unit suggests how students can help solve environmental problems and influence world events.

90-Minute Block Schedule Planning Guide

To support the Pre-engineering Magnet students will be assigned to a block schedule for their Civics program. The units identified above will follow a suggested planning guide for using *Civics: Responsibilities and Citizenship* in 90-minute periods for a total of 90 days. This schedule will be adjusted for alternative lengths of time for varied course emphasis to include the curriculum unit for Science/Technology/Society.

Each of these units will include some or all of the following student activities:

Multimedia Activities, Citizenship Skills, Technology Skills, Exploring Issues, Careers, Great American Documents, American Profiles, Supreme Court Case Studies, Did You Know, and Close Up activities. These activities will provide students with hands on learning.

Civics: Responsibilities and Citizenship

The text used for the Civics program for freshmen students in the Pittsburgh Public Schools beginning in September, 2000 will be the *Civics: Responsibilities and Citizenship* text by David C. Saffell, Ph.D. Glencoe/McGraw-Hill. This adoption for the year 2000 was selected for its emphasis on the following areas of instruction which are to be included into lessons to provide an enriched learning and teaching environment:

- Cooperative Learning
- School-to-Work
- Technology in the Classroom
- Multiple Intelligences
- At-Risk Students
- Assessment (Traditional and Performance)
- Multicultural Perspective
- Critical Thinking
- Teacher's Classroom Resources
- Reading Comprehension Activities
- Reteaching Activities
- Extension and Enrichment Activities
- Evaluation and Assessment (Quizzes, Chapter and Unit Tests, Performance Assessment Strategies and Activities)
- Multimedia Resources (Teaching transparencies, Videodiscs, Economics in Action Video Program, ABCNews InterActive)
- Additional Teaching Support

Dividing the Work Weeks

Student work weeks will be divided into Civics topics, by units, and research projects. These units and research activities will run simultaneously throughout the semester. Modifications to content materials will be adjusted as the course develops. An alternative semester course outline, identified as Outline 4 in the textbook may be adopted. This particular outline emphasizes law education and civil rights (13 chapters). This outline includes the following units:

- Unit 1 Foundations of American Citizenship
Chapters 1,2
- Unit 2 Blueprint for a New Nation
Chapter 3,4
- Unit 3 Citizenship: Rights and Responsibilities
Chapter 5
- Unit 4 The National Government
Chapters 9,10,11,12
- Unit 6 Law and the Individual
Chapters 16,17
- Unit 8 The United States and the World
Chapters 22,23

The first research project (during the first nine weeks marking period) will be the STS piece developed during the July, Yale Intensive session. This unit will focus on the technology of Ancient Mayan and Egyptian Cultures. Students will research the differences in the pyramids of the Maya and the Egyptians. Much of this research will be Internet based with students working in groups. Students will take notes as they browse the Ancient Culture site on the pyramids. After completing this part of their activity they will next form cooperative learning groups to brainstorm and develop theories on how blocks were put into place. All students will then participate in discussions on the differences in building the pyramids of these two cultures. The assessment of the assignment will be based on the following:

- Detailed notes on the pyramids
- Worksheets for each member
- An illustration to go along with each group's theory
- Identify the content standards for this project
- Create a class rubric for this project
- Complete a written report
- Give an oral report of your findings to the class
- Other topics may include (1) comparing and contrasting the number system of the Maya and the Egyptians or (2) comparing and contrasting the writing systems of the Maya and the Egyptians

Parts of this activity are based on the "Guide to Using the Internet" which accompanies the *Civics: Responsibilities and Citizenship* text.

Students electing to compare and contrast the Mayan and Egyptian numbering systems should include the following in their reports:

- Base 20
- Base 10
- Dots and Bars
- Roman Numerals
- Methods of Calculation
- The binary system and modern technology

Students electing to compare and contrast the Mayan and Egyptian writing systems should include the following in their reports:

- Glyphs vs. hieroglyphs
- Consonants
- Vowels
- Code breaking
- Use your knowledge of glyphs and hieroglyphs to write your name and the names of members in your groups.

The following outline will be distributed to students to help organize their research projects and assign specific tasks to each group member. Each topic in the list below will be recorded on a separate sheet as indicated by the bullets:

- PROJECT OBJECTIVES pp. 1
- TOPIC pp. 2 STANDARDS
- Materials:
Strategies:
- Skills pp. 3 STANDARDS
- Technology pp. 4 STANDARDS
- Internet Searches

Bibliography

Web Sites (Mayan)

1. www.indy4.fdl.cc.mn.us/~Isk/maya.mayamap.html
2. www.wotw.com/mexico/archaeology.html
3. www.exponnel.co.nz/holiday
4. www.halfmoon.org
5. www.studyweb.com/his/anciet/amcmayan.htm
6. www.astro.uva.nl/michielb/maya/astro.html
7. www.ocean.st.usm.edu/~tgparker/maya/htm#8TOC
8. www.didrichenmuseum.fi/eagan.html
9. www.upds.wsu.edu/Fair_95/gym/UMOO1.html
10. www.scie.mus.mn.us/sln/ma/sdact.html
11. www.mexica.org
12. www.FAMSI.org
13. www.mesoweb.com

Encarta 98, Microsoft

A.W. Crosby, *The Columbian Exchange Biological and Cultural Consequences*
(Greenwood Publishing Group, 1972)

Jacques Soustelle, *Daily Life of the Aztecs, on the Eve of the Spanish Conquest* (Stanford Univ. Press, 1970)

Mary Ellen Miller, *The Art of Mesoamerica: From Olmec to Aztec (World of Art)*,
(Thames & Hudson, 1996)

Robert J. Sharer, *The Ancient Maya 5th Ed.* (Stanford Univ. Press, 1994)

National Geographic Magazine

Kaleidoscope

Mary Ellen Miller, *Maya Art and Architecture World of Art* (Thames & Hudson, 1999)

Bibliography (STS)

Harvard Sitkoff, *The Struggle for Black Equality* (New York: Hill & Wang, 1933)

Joanne Meyerowitz, *Not June Cleaver: Women and Gender in Postwar America, 1945-1960*, ed. (Philadelphia: Temple University Press, 1994)

Barbara Ehrenreich, *The Hearts of Men: American Dreams and the Flight from Commitment* (New York: Anchor Books, 1983)

Richard Pohlenberg, *One Nation Divisible: Class, Race and Ethnicity in the United States Since 1938* (New York: Penguin Books, 1980) Chapter 3, pp. 86-126

Documents in William H. Chafe and Harvard Sitkoff, eds., *A History of Our Time: Readings in Postwar America*, 4th ed., and (New) pp.3-61

Norman Mailer, "The White Negro," in *Advertisements for Myself* (New York: Putnam, 1959), pp. 337-358

Allen Ginsberg, "Howl," in *Howl, and Other Poems*. San Francisco, City Lights Books 1956

Michael Harrington, *The Other America: Poverty in the United States*, rev.ed. (New York: Pelican Books, 1971), Chapters 1,2,4, & 9, pp.1-40, 64-85,167-184.

Paul Goodman, *Growing Up Absurd* (New York: Random House, 1956),

Thomas Doherty, *Teenagers and Teenpics: The Juvenilization of American Movies in the 1950s* (Boston: Unwin Hyman: 1988), Chapters 374, pp.42-104

David R. Shumway, "Watching Elvis: The Male Rock Star as Object of the Gaze," in *The Other Fifties*, ed. Joel Foreman (Urbana: University of Illinois Press, pp.124-143.

Victor Navasky, *Naming Names* (New York: Penguin Books, 1982), Chapter 8, pp. 223-278

Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York: Basic Books, 1998), Introduction and Chapter 1, pp. 3-37

Lynn Spiegel, *Make Room for TV: Television and the Family Ideal in Postwar America* (Chicago: University of Chicago Press, 1992), Chapter 2, pp. 36-72

Horace Newcomb, "The Opening of America: Meaningful Difference in 1950s Television," in *The Other Fifties*, ed. Joel Foreman (Urbana: University of Illinois Press, pp.103-123.

Alan Ehrenhalt, *The Lost City: The Forgotten Virtues of Community in America* (New York: Basic Books, 1995), pp. 8-85

Encarta 98, Microsoft

Web sites

1. www.english.upenn.edu/~afilreis/50s/home.html
2. www.lib.berkeley.edu/mrc/50sbib.html
3. www.fbi.gov/foipa/main.htm

Rubrics

This rubric will be used in the introductory library activity using emerging library technologies. It is designed for students in secondary school to evaluate the web-sites they use in research projects. This particular rubric may be found at the URL below.

www.Siec.k12.in.us/~west/edu/rubric3.htm

Name of Site _____ Date _____

URL; _____ Time _____ a.m./p.m.

1 = Poor

5 = Exceptional

Design

Navigability is good. Links are clearly labeled.

Can move from page to page easily.

1 2 3 4 5

This site offers interactivity. The visitor engages with the site

1 2 3 4 5

This site uses appropriate page format. Pages are not inordinately long.

1 2 3 4 5

Can easily find information.

1 2 3 4 5

This site is aesthetically appealing. Good use of graphics and color.

1 2 3 4 5

This site is aesthetically courteous. Text and background colors do not clash.

1 2 3 4 5

Content

Has a proper title.

1 2 3 4 5

Additional resource links are included

1 2 3 4 5

Information is useful.

1 2 3 4 5

Rich Content and will likely revisit

1 2 3 4 5

How this web-site compares in content to Similar web-sites.

1 2 3 4 5

Technical Elements

All links work. 1 2 3 4 5

Thumbnail graphics used. Graphics download quickly. 1 2 3 4 5

Alternative text page is offered when heavy graphics or frames are used. 1 2 3 4 5

Image links and image maps have a text alternative. 1 2 3 4 5

Can see meaningful information within 30 seconds. 1 2 3 4 5

Credibility

Contact person is stated with their e-mail address. 1 2 3 4 5

Announces when this page was last updated. Links have been kept current 1 2 3 4 5

Resource links used to develop content are included. 1 2 3 4 5

States the name of the host school or institution. 1 2 3 4 5

Total Possible Points = 100

The following rubric may be used to evaluate oral presentations of research topics. This rubric may be found at the following web-site.

www.ed.fnal.gov/help/97/sightsound/presrub.html

Presentation Rubric

Attributes	Above Standard (5-4.5)	at Standard (4.5-3.5)	Attribute Still a Goal (3.5-0)	Attribute points Earned
Resource Utilization	Utilized all resources described on info. sheet to acquire info. Presentation (10-9)	Utilized some resources on sheet to gain info (9-7)	Utilized few or no resources described (7-0)	/5
Topic Discussion	Informed about material (10-9)	Using notes when speaking (9-7)	Unable to discuss topic or read from notes (7-0)	/10
Visual & Supplementary Materials	Oral report inc. computer generated or hand made visuals, graphs, tables, charts, multi-media software (10-9)	Same, but no multi-media software (9-7)	No visuals, no supplementary materials. (7-0)	/10
<hr/>				
Total Presentation Points Earned				/25
<hr/>				

Additional rubrics may be used. Rubrics for data, student observation (for use by students to evaluate their performance within their groups) and peer evaluations for oral presentations to the class may be used and/or be developed by the class.