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University of Nevada, Reno

Inquiry-based Instruction versus Direct Instruction: Teaching Models’ Support of Students’ Critical Thinking and Comprehension

A thesis submitted in partial fulfillment of the requirements for the degree of Bachelor of Arts in Secondary Education, Bachelor of Science in Biology, and the Honors Program

By

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May 2010
We recommend that the thesis prepared under our supervision by

Danika Keating

entitled

Inquiry-based Instruction versus Direct Instruction: Teaching Models’ Support of Students’ Critical Thinking and Comprehension

be accepted in partial fulfillment of the requirements for the degree of

Secondary Education, Bachelor of Arts
Biology, Bachelor of Science

________________________________________
Dr. Margaret Ferrara, Ph.D. Thesis Advisor

________________________________________
Tamara Valentine, Ph. D., Director, Honors Program
May 2010
Abstract

Models of teaching favored in high school classrooms vary by teacher. This study compared two models, direct instruction and inquiry-based instruction, to determine each one’s relationship to student’s percentage of improvement in recall and critical thinking. Two eleventh grade United States history classes were given control and experimental treatments. Direct instruction was included in the study as the control because it is the most commonly used method of instruction in the social science. Inquiry was used as the experimental treatment since this model is most often used in the hard sciences and is being tested to see if it has a positive or negative effect on recall and critical thinking on the two classes in the study. Each class was taught the same two lessons, but was taught using different teaching models. Each class received one lesson using direct instruction and one lesson using inquiry in the study. Data were collected by administering a pretest and posttest for each lesson then were analyzed for data and percentage of improvement was calculated. After analysis, it was found that the mean of the aggregate scores for the classes seemed to suggest that in terms of recall percentage of improvement, direct instruction had the most successful results for both classes in the study. On the other hand, in terms of critical thinking scores, inquiry tended to have the most successful results for both classes in the study.
Acknowledgments

I wish to thank my host teacher for allowing me all the time I spent in his classroom and giving me the opportunity to use his classroom. I also thank the students in the study for their voluntary participation and their parents for allowing their children to participate. I also thank the school district and the principal of the school for giving me the permission to conduct this study at Carson High school.

I wish to thank Dr. Margaret Ferrara for her yearlong commitment to mentoring me, guiding me, and teaching me throughout this entirely new adventure. Without her time, energy, and confidence in me, this thesis would not have been completed.

I wish to thank my fiancé for his patience and encouragement for the last year. No matter how stressful the process, he was always there and willing to listen.

Finally, I wish to thank the Office of Undergraduate Research at the University of Nevada Reno for awarding me the Honors Undergraduate Research Award. I am grateful for their support.
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CHAPTER ONE

Introduction

Background

The Department of Education released *A Blueprint for Reform: The Reauthorization of the Elementary and Secondary Education Act* in March 2010. Included in the document is a letter from President Barack Obama on page one demanding that education in America needed to improve. He describes United States’ education system as one that a generation ago was leading the world, but today is eleventh in the ranks. The act calls for the United States to once again lead the globe by 2020. Today’s teachers not only have to contend with that expectation, but also get their students to succeed on the standardized testing of *No Child Left Behind* and other school accountability tests. While teachers have to teach their students to succeed in recall, they must find ways to also teach their students to think critically about concepts. In an education system that has been driven by teaching to the test and neglecting other skills, can teachers find a teaching model that allows students to test well in multiple choice questions and critically think effectively? Is it possible that there is an untapped resource in the incorporation of teaching models from other disciplines?

Teaching Models: Direct Instruction & Inquiry

In today’s American education system, teaching direct instruction, favored and made popular by teacher educator Madeline Hunter, is still predominantly used (Heath, 2009). Direct instruction is also called teacher-centered; the teacher is the sole distributor of the information. This is a method often used in the social sciences in secondary schools and typically characterized as teaching done through lecture and little interaction.
with students (Van Zee, 2000). In science instruction, an inquiry-based model, such as the 5E model, is used in order to deliver instruction (Bybee, 2008). This method entails the same processes scientists go through when working on a problem. This can also be described as the scientific method of hypothesis, investigation, collection of data, and making of conclusions (Crawford, 2000; Hofstein & Lunetta, 2003).

Statement of the Problem

What model is more effective for student learning? What is the relationship between secondary student comprehension and critical thinking based on the choice of teaching model- direct instruction or inquiry? The purpose of this study is to analyze whether one method is better than the other in terms of recall and critical thinking and how this information may be used to teach students more efficiently. This research aims to find whether a non-traditional method for a social science like history, such as an inquiry-based method typically used in the teaching of science, will allow students to recall and critically think with the concepts taught more effectively.

The Study Description

This study involves a control group and an experimental group, each receiving two United States history lessons in which the control group will be taught using the direct instruction model and an experimental group will be taught the same lesson but using an inquiry-based model. The students will be taught by Danika Keating, the student investigator. This study will use two eleventh grade United States History classes. A multiple choice comprehension test will be given to both the control and experimental groups before and after their respective lessons to be able to compare each class’s improvement prior to the lesson on the content taught. The test will also include critical
thinking questions in order to compare the students’ ability to answer critical thinking questions after teaching the lessons using different methods.

Purpose of the Study and Hypothesis

This study will offer authentic, quantitative data on the difference between the direct instruction teaching model and the less frequently used inquiry-based model in history classes. It is hypothesized that the results will show that students taught with the inquiry-based model will score better when tested in recall and critical thinking. The findings from this study will provide meaningful information about effective strategies to enhance students’ recall and critical thinking skills. The results will hopefully encourage teachers to use more of a variety of teaching models, especially in today’s schools where questions arise more and more often about the declining success of American students and the best way to teach.

Variables

Data. Pretest and posttest scores were scored, collected, and compared in relation to the method with which the students were taught. The students were tested in multiple choice questions and short answers. Some activities included group work and students teaching each other.

Independent variable. The independent variable was the teaching model used to teach each lesson. The control group received the direct instruction model, consisting of lecture, PowerPoint, and filling out a handout. The experimental group received inquiry instruction, consisting of group work, students teaching each other, students asking their own questions and answering them, and students making conclusions based on what they learned on their own.
**Dependent variable.** The dependent variables were the pretest and post tests. Also, the students learned the same information whether they were the control or experimental group.

**Limitations**

There were many limitations in this study. First, the sample size was small. The study incorporated two classes, 60 students, at one high school. Second, the study had two trials. The permission from the IRB Board at the University of Nevada Reno was stalled for two months, so the study started later than planned. There were initially three trials planned, but the number was reduced due to time constraints. Third, due to the late start, the students were active in a unit related to the lessons, so students started out with more background knowledge than planned. Fourth, the IRB Board required that the students be told the lesson was not being graded and they did not have to take the test. Ultimately the results were not all students participating in the tests, and most likely scores were not as high as they might have normally been when students know their grades count.
CHAPTER TWO

Literature Review

Direct Instruction

Direct instruction is a method where the teacher is the sole distributor of the information (Hunter, 1985; Van Zee, 2000). This is a method often used in the social sciences in secondary schools and most often characterized as consisting of lecture and little interaction with students. The goal of direct instruction is to be able to show measurable results of students’ ability to learn by testing, such as standardized testing (Slocum, 2003). What the teacher teaches is decided by what he or she believes will prepare the students to recall information when the test is presented. In other words, direct instruction is assessment driven (Slocum, 2003; Watkins & Slocum, 2003).

Direct instruction has been shown to be effective, if implemented correctly, but effectiveness is determined by scores on tests, not true understanding of material (Slocum, 2003). If a student tests well on these tests, which are usually recall based, then the assumption is he or she has mastered the material. Although direct instruction may be seen as the most effective way to teach material, it is easily done incorrectly (Watkins & Slocum, 2003). Due to how much information is distributed using this method, teachers need to be well-versed in design, organization, and delivery. If any part of the lesson is weak, instruction can be ineffective. Thus, teachers have to be intentional when scripting their lessons to account for them being the only source of information for the students and have clear delivery during instruction.
Inquiry Based Instruction

Inquiry based instruction is one of the most popular methods in teaching science in American schools (Colburn, 2000; Wallace & Kang, 2004). What this method entails is the same processes scientists go through when working on a problem in the natural world; inquiry begins with ideas and is the quest to answer questions that arise from those ideas (Hofstein & Lunetta, 2003). This method can also be described as the scientific process of hypothesis, investigation, collection of data, and making of conclusions (Crawford, 2000; Hofstein & Lunetta, 2003). The students learn how to support their conclusions from this process with evidence and to communicate this information (Singer, Marx, Krajcik, & Chambers, 2000). Students are able to discuss their thoughts, make clarifications, and generate their own understanding (Van Zee, 2000). In the learning of science, the problem solving method allows students to learn concepts in a more hands-on, interactive, manner (Singer, Marx, Krajcik, & Chambers, 2000). This method has been shown to be a successful method and students tend to enjoy this type of instruction (Wallace & Kang, 2004). Not only do students like it; they also are more engaged and use higher level thinking (Crawford, 2000).

5E Model

The 5E model is an inquiry-based method and will be the model used in this study. This model consists of five phases of instruction: engagement, exploration, explanation, elaboration, and evaluation (Bybee, Powell, & Trowbridge, 2008). The first phase of engagement consists of engaging the students in the lesson. A successful engagement results in students being puzzled, interested, and motivated and can be achieved through questioning and discrepant events. The second phase is labeled
exploration. Here the students participate in some sort of activity where they are either mentally or physically involved. They may observe, investigate, or interact with actual concepts and come up with conclusions and ideas for themselves. The teacher is more a facilitator. The third phase is explanation. In this phase the teacher takes the students’ experiences and ideas from the previous phase and gives explanations for them. Also, the teacher is the provider of facts. In the fourth phase, called elaboration, the teacher takes the concepts further. This could consist of taking the experiences of the students from the exploration phase and applying their new knowledge to situations or problems. The final phase, evaluation, is where the teacher assesses the students’ learning, such as through a test.

_Teachers and Inquiry Lessons_

As the inquiry is used more and more, the students’ curiosity and ability to answer the questions they come up with improves, and they do not need as much scaffolding as they would need when the method is used initially. Students who are taught science through an inquiry-based method start the lesson highly supported, or scaffolded, and be slowly given more and more autonomy (Singer, Marx, Krajcik, & Chambers, 2000; Windschitl, 2002). Teacher involvement in inquiry-based teaching is still important, even with student autonomy. He or she must take on many roles in order for the method to work and need to know a high content level in his or her area (Crawford, 2000; Wallace & Kang, 2004). For example, in the study _Embracing the Essence of Inquiry: New Roles for Science Teachers_, Barbara Crawford observed one class that heavily used inquiry in its lessons (2000). Crawford found that the teacher in this class took on more
roles than the average teacher, but the students also took on more roles than the average students. These roles included those that teachers normally had, such as instructor.

Reasons inquiry is not used by teachers of any discipline range. One reason is the amount of effort a teacher must put into lessons (Singer, Marx, Krajcik, & Chambers, 2000; Windschitl, 2002). Since teachers take on more roles during instruction than if that teacher was teaching with direct instruction, the teacher may not be prepared enough, either through experience or education level (Crawford, 2000; Wallace & Kang, 2004; Windschitl, 2002). Another reason teachers may stray from the method is the beliefs by teachers of their students’ abilities (Wallace & Kang, 2004). Teachers may believe their students do not have the maturity or the skills to take on inquiry and its student-centered core. These teachers take the view that students need direct, teacher-centered instruction in order to learn. They see students as needing explicit directions and extensive practice. They feel that they need to prepare students to know the content so they may be prepared for exams, but this does not necessarily mean the students will learn to understand the content, which is a major drawback of this view. A third reason teachers would rather not use an inquiry-based model is because they view it as too difficult to implement (Colburn, 1997; Wallace & Kang, 2004). They feel it is easier, more comfortable, and more predictable to go with the same old procedures (Colburn, 1997).

These reasons for not using an inquiry-based method may be all refuted by research because there have been many instances where these views have been proven false and inquiry has been used very successfully. Although this method takes more work, research has shown that the benefits are worth it because not only do students seem to enjoy the method more and are more engaged, but also inquiry-based instruction has
shown to result in higher content assessment scores (Colburn, 2000; Wallace & Kang, 2004). What these views may suggest are that teachers need more support and training in other methods, such as inquiry, to dispel these worries and give them the tools to use inquiry (Crawford, 2000).

It is important to recognize one reason in particular that teachers may not implement inquiry methods in their classrooms: the support of their schools and students (Hofstein & Lunetta, 2003). The school culture is one that almost assumes that a teacher will stick with traditional teaching methods, such as direct instruction. He or she may not be given more training in using methods that are outside this box. On the other hand students assume they will be given explicit directions and there will be an answer given at the end. The teacher has to work hard to move away from these assumptions and the relatively bad habits that go along with them, such as lack of natural curiosity and a move away from the typical and predictable routine of direct instruction. Standardized testing and standards also make it more difficult for teachers to use more inquiry in the classroom. Tests are mainly testing recall, so that is what everyone expects to be prepared for. Inquiry will prepare students to learn concepts, but it is harder to do when the pressure makes it feel like a plethora of information must be given to students as quick as possible and they must be trained to be able to recall it.

Inquiry-based methods may not be seen by teachers as easier or more efficient to use, but this view is not necessarily true. They may see this method as giving students more chances to come to the wrong conclusions, which is a step in the inquiry process. The purpose of this method is for students to be able to see their mistakes and really learn from them to find the correct conclusions (Klahr & Nigam, 2004). Teachers with less
experience and under the pressure of testing may see this method as an unnecessary risk. This fear is another consequence of lack of training and support from the system in place.

Comparison of Direct Instruction and Inquiry

When direct instruction and inquiry are placed next to each other and compared, there are obvious differences. According to Crawford, direct instruction and inquiry are on two ends of the spectrum (2000). One is teacher-centered, the instructor being the sole distributor of information and facilitator of the class routine, while the other is student-centered, where the pupil is the one figuring out how he or she wants to learn and in a sense teaching themselves the information. Inquiry allows the students more autonomy and independence (Colburn, 1997). They have more control over how they learn. They get a deeper understanding of concepts and are better able to apply their knowledge (Klahr & Nigam, 2004). They question more and are more able to answer their own questions. While direct instruction is preconceived by teachers as the more efficient way to teach concepts and may even result in what appears higher scores in testing, research may be suggesting that in order for students to really learn and understand, become curious, engaged, and independent with what is being taught, take what they learn in school and go beyond the classroom, and think at a higher and more complex level, inquiry-models may be best.

Inquiry in Teaching History

While inquiry is the typical method in science instruction, and direct instruction is usually the method in social science instruction, the effectiveness of this norm may not be as well researched or as true as believed. The objective of the research in this thesis is to test the effectiveness in the instruction of 11th grade United States History by comparing
the traditional method used, direct instruction, and a non-traditional method for the social sciences, inquiry. This study could find that a non-traditional method, like inquiry, could be more effective in the teaching of history. Previous research by Newby and Higgs has shown a possible basis to this possible result (2005). In using inquiry in social studies, it was found to be successful. They found that getting away from text books and getting the students more involved and solving problems was effective. Their students were engaged in higher level thinking, expanded their knowledge of social studies, and really talked about the concepts. Planning did have to be done more carefully, but the benefits, including more student engagement, seemed worth it. With the knowledge that there may be a basis to the notion that inquiry could be a very successful means of teaching the social sciences, more research is needed in using alternate methods of teaching in social studies. Yes, instruction has to be constructed carefully, but making students researchers and problem solvers in something like history concepts may make a subject that students often find dry and unrelatable, meaningful and understandable.
CHAPTER THREE

Methodology

Participants in the Study

The school the study occurred in a standard grade 9-12th grade high school made up of around 2,500 students (Homes & Lands Affiliates, 2010). The student teacher ratio is 24:1 and 60% of the student population is college bound. Male to female ratio is 51%:49% ("Public school review," 2010). The school is 67% white, 26% Hispanic, 3% Asian, and 1% Black. Twenty percent are eligible for free and reduced lunch.

Two high school classes participated in the study; each comprised of thirty students. The subjects for the study were required to be eleventh grade students enrolled in one teacher’s United States history classes. Both classes were both enrolled in standard United States history. Class A had twenty-six students participate and class B had twenty-five students participate. The ratios of types of students, from gender to race, within the classroom were equal to that of the school.

Procedure

In order to carry out this study, it was necessary to have two classes to compare the different methods. Invitations to the participants were given in writing one week before the study and verbally in class right before the lessons (see Appendix A & C). Written invitations were given to parents by the use of information letters (see Appendix B). The students and parents had the option not to include the student in the study at any time without repercussions. This was made clear both verbally and in writing that there would not be any impact on grades for participating and for not participating in the study.
**Study Design**

The study design included two United States history class periods, class A and class B, who acted as experimental and control groups. The classes were each taught two United States history lessons by myself, the student investigator (see Appendix E, F, H, & I). In the first lesson, the control group, class A, received direct instruction (see Appendix E), and the experimental group, class B, received an inquiry based lesson (see Appendix F). This was decided randomly. Both were taught the same history subject. The second lesson the groups switched; the control group, class A, received the experimental treatment (see Appendix I) and the experimental group, class B, received the control treatment (see Appendix H). Again they were taught the same content knowledge. The classes were teacher-identified as matched samples and allowed for a comparison of two classes who were very similar in gender ratio and achievement level.

**Data Collection**

A multiple choice comprehension test was given to both the control and experimental groups before and after their respective lessons to be able to compare each class’s improvement from before the lesson on the content taught (see Appendix D & G). The test included multiple choice questions based on measuring recall of information and critical thinking short answer questions. The pre- and post- tests were the same tests. This approach, using both recall and critical thinking questions, allowed for analyzing two different types of data.

Recall, the basis of the component of the first half of the assessment given to the students, can be described as “to-be-remembered” teaching of information (Cull, 2000). Testing of recall means to test students’ ability to retrieve information, whether it is
definitions, facts, dates, etc. Critical thinking, the basis of the component of the second half of the assessment given to the students, can be described as reflective thinking (Fisher, 2001). It is the aim of many teachers to teach students to think, not just memorize information like recall does. This reflective thinking by students involves thinking about reasons and implications of knowledge. When students critically think they look at evidence surrounding an idea and make conclusions through logic. In its most basic definition, it is the action by students going beyond recalling information and analyzing the information. Both are components in measuring learning.

Between 15-20 minutes was allowed for all pretests and 20-25 minutes for all post-tests. Students were to turn over their test when they had finished and if they did not want to be included in the study they only had to not fill out the test. After the post-tests were collected after everyone had finished, any handouts for the lesson were passed out and the student investigator followed the lesson plan scheduled for that class depending whether they were the control or experimental group. All handouts were collected at the end of the class periods.

**Data Analysis**

The research tests that were given were scored, averaged, compared, and recorded by class, not by individual. Two scorers, the Primary Investigator and the Student Investigator, analyzed the critical thinking questions by using a semantic unit called a Thought Unit (T-unit). A thought unit can be described as counting the number of thoughts within a student's writing or more accurately as the shortest grammatical sentences that can be found in a student's writing. For example, in the sentence *Hitler created havoc and killed the Jews*, there are two thought units. These are *Hitler created*
havoc and Hitler killed the Jews. Research test results were calculated as aggregate data by class.
CHAPTER FOUR

Results and Discussion

The following section summarizes the results of the analysis of student test scores for Class A and Class B with two different treatments. The first treatment being the control, direct instruction, and the other the experimental, inquiry-based instruction. The study consisted of two trials.

*Recall Scores*

Figure 1 below depicts the outcome for students in classes A and B who received the treatments of direct instruction and inquiry for the two lessons. The figure shows the percent of recall (the multiple choice section of the test) for both classes and for both lessons.

*Figure 1. Summary of percentage of improvement in recall.*

After comparing the percent of improvement in the two lesson sets, the data initially revealed that in the first set lesson one, direct instruction, the control group (class
A) had a larger percentage of improvement in recall (see Figure 1). In the second set of lessons, lesson two, direct instruction again had a larger percentage of improvement in recall for the control group (class B).

Table 1 provides an overview of the percentage of recall of improvement for each of the groups in lesson one and lesson two.

<table>
<thead>
<tr>
<th></th>
<th>Lesson 1</th>
<th>Treatment</th>
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<tbody>
<tr>
<td>Class A</td>
<td>10.06%</td>
<td>Direct instruction</td>
</tr>
<tr>
<td>Class B</td>
<td>3.67%</td>
<td>Inquiry</td>
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<table>
<thead>
<tr>
<th></th>
<th>Lesson 2</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A</td>
<td>15.15%</td>
<td>Inquiry</td>
</tr>
<tr>
<td>Class B</td>
<td>39.52%</td>
<td>Direct Instruction</td>
</tr>
</tbody>
</table>

The percentage of improvement for students in the first control group (class A) was 10.06% compared to the experimental group percentage of improvement of 3.67% (class B). The percentage of improvement for lesson two was 39.52% for the control group (class B) as compared to the experimental group percentage of improvement of 15.15% (class A).

Recall Scores Without Outliers

Figure 2 below depicts the outcome for students in classes A and B who received the treatments of direct instruction and inquiry for the two lessons. The figure shows the percent of recall (the multiple choice section of the test) for both classes and for both lessons without outliers.
After comparing the percent of improvement in the two lesson sets, the data without outliers revealed that in the first set of lesson one, direct instruction, the control group (class A) had a larger percentage of improvement in recall (see Figure 2). In the second set of lessons, lesson two, direct instruction again even without outliers had a larger percentage of improvement in recall for the control group (class B).

Table 2 provides an overview of the percentage of recall of improvement for each of the groups in lesson one and lesson two when outliers were removed from the data.
Table 2

<table>
<thead>
<tr>
<th></th>
<th>Lesson 1</th>
<th>Treatment</th>
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<tbody>
<tr>
<td>Class A</td>
<td>7.65%</td>
<td>Direct instruction</td>
</tr>
<tr>
<td>Class B</td>
<td>3.67%</td>
<td>Inquiry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Lesson 2</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A</td>
<td>13.50%</td>
<td>Inquiry</td>
</tr>
<tr>
<td>Class B</td>
<td>42.31%</td>
<td>Direct Instruction</td>
</tr>
</tbody>
</table>

The percentage of improvement for students in the first control group (class A) was 7.65% compared to the experimental group percentage of improvement of 3.67% (class B). The percentage of improvement for lesson two was 42.31% for the control group (class B) as compared to the experimental group percentage of improvement of 13.50% (class A).

**Critical Thinking Scores**

Figure 3 below depicts the outcome for students in classes A and B who received the treatments of direct instruction and inquiry for the two lessons. The figure shows the percent of critical thinking improvement (the short answer section of the test) for both classes and for both lessons.
After comparing the percent of improvement in the two lesson sets, the data initially revealed that in the first set of lesson one, inquiry, the experimental group (class B), had a larger percentage of improvement in critical thinking (see Figure 3). In the second set of lessons, lesson two, inquiry again had a larger percentage of improvement in critical thinking for the experimental group (class A).

Table 3 provides a overview of the percentage of critical thinking improvement for each of the groups.
### Table 3

**Critical Thinking Percentage of Improvement**

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Treatment</th>
<th>Percentage</th>
<th>Class A</th>
<th>Class B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson 1</td>
<td>Direct instruction</td>
<td>26%</td>
<td></td>
<td>101%</td>
</tr>
<tr>
<td>Lesson 2</td>
<td>Inquiry</td>
<td>36%</td>
<td></td>
<td>27%</td>
</tr>
</tbody>
</table>

The percentage of improvement for students in the first control group (class A) was 26% compared to the experimental group percentage of improvement of 101% (class B). The percentage of improvement for lesson two was 27% for the control group (class B) as compared to the experimental group percentage of improvement of 36% (class A).

**Critical Thinking Scores Without Outliers**

Figure 4 below depicts the outcome for students in classes A and B who received the treatments of direct instruction and inquiry for the two lessons. The figure shows the percent of critical thinking improvement (the short answer section of the test) for both classes and for both lessons without outliers.
After comparing the percent of improvement in the two lesson sets without outliers, the data showed that in the first set of lesson one, inquiry, the experimental group (class B), had a larger percentage of improvement in critical thinking (see Figure 4). In the second set of lessons, lesson two, the control group (class B) had a larger percentage of improvement in critical thinking.

Table 4 provides an overview of the percentage of critical thinking improvement for each of the groups without outliers.

### Table 4

<table>
<thead>
<tr>
<th></th>
<th>Critical Thinking Percentage of Improvement Without Outliers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lesson 1</td>
</tr>
<tr>
<td>Class A</td>
<td>26%</td>
</tr>
<tr>
<td>Class B</td>
<td>82%</td>
</tr>
</tbody>
</table>

Figure 4. Summary of percentage of improvement in critical thinking without outliers.
The percentage of improvement for students in the first control group (class A) was 26% compared to the experimental group percentage of improvement of 82% (class B). The percentage of improvement for lesson two was 43% for the control group (class B) as compared to the experimental group percentage of improvement of 31% (class A).

**Class A Performance**

Figure 5 below depicts the outcome for students in class A direct instruction in the first lesson and inquiry in the second lesson. The figure shows the percent of improvement in recall and critical thinking.

*Figure 5. Percentage of improvement for class A in lesson one and two.*

Class A received direct instruction in the first lesson and inquiry in the second lesson. In comparing the two treatments the class received, in both recall and critical thinking the class had greater improvement with the inquiry model (see Figure 5). Table 5 provides an overview of the percentage of recall and critical thinking improvement for each of the lessons class A was taught.
Table 5

**Class A Percentage of Improvement**

<table>
<thead>
<tr>
<th></th>
<th>Lesson 1 (Direct Instruction)</th>
<th>Lesson 2 (Inquiry Model)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall</td>
<td>10.06%</td>
<td>15.15%</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>26.00%</td>
<td>36.00%</td>
</tr>
</tbody>
</table>

The percentages of improvement for students in class A when taught with direct instruction were 10.06% for recall and 26% for critical thinking. The percentages of improvement for students in class A when taught with the inquiry model were 15.15% for recall and 36% for critical thinking.

Figure 6 below depicts the outcome for students in class A direct instruction in the first lesson and inquiry in the second lesson. The figure shows the percent of improvement in recall and critical thinking with the outliers removed from the data.

*Figure 6. Percentage of improvement for class A in lesson one and two without outliers.*

Class A received direct instruction in the first lesson and inquiry in the second lesson. In comparing the two treatments the class received, in both recall and critical
thinking the class had greater improvement with the inquiry model when the outliers were removed (see Figure 6).

Table 6 provides a overview of the percentage of recall and critical thinking improvement for each of the lessons class A was taught without outliers in the data.

Table 6

*Class A Percentage of Improvement Without Outliers*

<table>
<thead>
<tr>
<th></th>
<th>Lesson 1 (Direct Instruction)</th>
<th>Lesson 2 (Inquiry Model)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall</td>
<td>7.65%</td>
<td>13.50%</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>26.00%</td>
<td>31.00%</td>
</tr>
</tbody>
</table>

The percentages of improvement for students in class A when taught with direct instruction were 7.65% for recall and 26% for critical thinking. The percentages of improvement for students in class A when taught with the inquiry model were 13.50% for recall and 31% for critical thinking.

*Class B Performance*

Figure 7 below depicts the outcome for students in class B inquiry in the first lesson and direct instruction in the second lesson. The figure shows the percent of improvement in recall and critical thinking.
Figure 7. Percentage of improvement for class B in lesson one and two.

Class B received inquiry in the first lesson and direct instruction in the second lesson. The class scored overwhelmingly better in critical thinking in the inquiry lesson than in the direct instruction lesson (see Figure 7). The class scored better in recall in the direct instruction lesson than with the inquiry lesson.

Table 7 provides a overview of the percentage of recall and critical thinking improvement for each of the lessons class B was taught.

Table 7

<table>
<thead>
<tr>
<th></th>
<th>Lesson 1 (Inquiry Model)</th>
<th>Lesson 2 (Direct Instruction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall</td>
<td>4%</td>
<td>40%</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>101%</td>
<td>27%</td>
</tr>
</tbody>
</table>

The percentages of improvement for students in class B when taught with inquiry were 4% for recall and 101% for critical thinking. The percentages of improvement for students in class B when taught with the direct instruction were 40% for recall and 27% for critical thinking.
Figure 8 below depicts the outcome for students in class B inquiry in the first lesson and direct instruction in the second lesson. The figure shows the percent of improvement in recall and critical thinking with the outliers removed from the data.

*Figure 8.* Percentage of improvement for class B in lesson one and two without outliers.

Class B received inquiry in the first lesson and direct instruction in the second lesson. In comparing the two treatments the class received, in critical thinking the class had greater improvement with the inquiry model when the outliers were removed (see Figure 8). In terms of recall, class B improved nearly the same between direct instruction and inquiry when outliers were removed from the data.

Table 8 provides a overview of the percentage of recall and critical thinking improvement for each of the lessons class B was taught.

Table 8

<table>
<thead>
<tr>
<th></th>
<th>Lesson 1 (Inquiry Model)</th>
<th>Lesson 2 (Direct Instruction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall</td>
<td>27%</td>
<td>42%</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>82%</td>
<td>43%</td>
</tr>
</tbody>
</table>
It appears from the data that Class B tended to score higher in the short answer (critical thinking) portion of the test after they received instruction through inquiry. In their second lesson, there was not visible difference between the test items for recall (multiple choice) as compared to critical thinking (short answer).

**Overall Analysis**

The overall trend, as supported by figures 1-8 and tables 1-8, in all the lessons was students from class A and class B tended to have greater improvement in recall when taught with direct instruction and greater improvement in critical thinking when taught with inquiry. Class A improved by a greater percentage in both recall and critical thinking when the class was taught with inquiry. When the outliers were removed the trend was still true. Class B, on the other hand, improved in critical thinking skills when taught with inquiry by a critical percentage, but improved by a greater percentage the class’ recall when taught with direct instruction. When the outliers were removed, class B still performed better in critical thinking when taught with inquiry and better in recall with direct instruction.
The purpose of this study was to compare two different teaching methods: direct instruction and inquiry-based instruction. Two classrooms were selected to take part in the study. Each class received a direct instruction on one day with content from United States history and inquiry instruction on another day with different content from United States history. The findings from Chapter Four suggest that classes scored higher in critical thinking when taught with inquiry, but scored higher in recall when taught with direct instruction. This trend can be seen in figures 1-4 and tables 1-4. Between the two classes the actual percentage of improvement differed, as shown in figures 5-8 and tables 5-8, but the trend was still the same throughout the study.

Even though I did not report observations in my findings section, I did make informal observations of students and their responses during the study. The following are anecdotal but help bring a “richer picture” to the treatment and outcome discussion:

*Lesson 1 Direct Instruction*

In lesson one, class A received the control treatment, direct instruction. At the beginning of instruction, I noted that the students were quiet. They did not talk to me or each other for the most part. They just sat there staring waiting for instructions. This may be partly attributed to the fact that the student investigator was providing the instruction rather than their teacher. Also, the teacher was not in the classroom during the study and the novelty effect (the substitute and the student investigator presence) may have contributed to some of the “quietness” at the start of the lesson. Throughout the lesson, students did not ask questions to the student investigator. Most students filled out
their handouts, but their attention seemed to wane. For example, they often chatted with each other, stared at the walls or the floor, texted on the cell phones, and drew on the handout.

Lesson 1 Inquiry

In lesson one, class B received the experimental treatment, that is, inquiry instruction. At the beginning of instruction students appeared to be immediately engaged. As the lesson continued, it appeared that every student got involved and every student filled out the note-taking journal. The student investigator went to every group and randomly selected a student and asked what he or she had come up with or learned. It appeared that student responses were thoughtful. The substitute teacher commented to the student investigator that he was very surprised that the students were all involved and doing the lesson. By the end of the lesson, it appeared to the observer (the student investigator) that students were interested in the content of lesson, as well as the implications of the historical information they had just seen, because they began asking higher level thinking questions about world events today and parallels they were able to see between the history and the modern world. These higher level thinking conversations were initiated by the students. At the end of the lesson, the students thanked the student investigator and clapped, showing that they enjoyed the lesson.

Lesson 2 Direct Instruction

In lesson two, class B received the control treatment, direct instruction. It appeared that students were unmotivated, and did fill out their handouts. There was student off-task talking throughout the lesson, and the student investigator noted that at least 85% of the students were not making eye contact with the student investigator nor
looking at the PowerPoint presentation. When I prompted discussion, the discussion lacked engagement and meaningful answers. I would repeat a discussion question in a different way, tried asking specific students to answer, but no matter what answers consisted of “yes,” “no,” “I don’t know,” or had little substance.

Lesson 2 Inquiry

In lesson two, class A received the experimental treatment, inquiry instruction. It appeared that students became engaged, worked with each other, and were able to talk to the student investigator about what they were learning when asked. At one point, the student investigator observed the class from the back of the room and noted that all group was engaged and 90% of those conversations were completely on task with the lesson. The student investigator also found that when a student was unengaged, the investigator had little trouble getting the student re-engaged.

This small study suggests that when choosing a teaching method, if the outcome desired is for the students to be able to recall, direct instruction better prepares students compared to inquiry. On the other hand, if the outcome desired is for the students to be able to think critically and a higher level, it suggests inquiry is more effective than direct instruction. When looking at student engagement and observational enjoyment of the lessons, students favored the inquiry lesson over the direct instruction.

Classes may react differently to teaching methods being taught, but this study outcomes suggest that a teacher who wants the result of increased recall scores could use direct instruction, and if he or she wants higher critical thinking scores, use a method such as inquiry. Even though the degree of percent of improvement varied, the overall trend resulted in same conclusion.
CHAPTER SIX

Significance & Recommendations for Future Research

It was anticipated students taught with the inquiry-based model would score better when tested in critical thinking and recall. This was partially due to Bloom’s Inverted Triangle (Wineburg, 2009). This education diagram states that asking questions and supporting it with background knowledge is sufficient. While this still may be true, this study showed quantitative data that there was improvement in student critical thinking when taught with inquiry, but that direct instruction outperform in terms of recall. These results could have an effect on how teachers think about how students learn and how they themselves teach in the future. It is possible that teachers will be interested in this study because it offers new ways of teaching social studies to their students to increase academic achievement. This study could be a catalyst for future research into taking models used in certain disciplines, not just in the sciences, and crossing them over into other areas in which they are usually not taught. This would lead to questions about whether models in other subject areas are more effective in others and maybe there needs to be a shift in how teachers teach in certain subject areas.
References


Homes & Lands Affiliates (2010).


Public school review llc. (2010).


Appendix A

STUDENT INFORMATION SHEET

TITLE OF STUDY: Inquiry-based Instruction versus Direct Instruction: Teaching Models’ Support of Students’ Critical Thinking and Comprehension

INVESTIGATOR(S): Dr. Margaret Ferrara (775-682-7530) & Danika Keating (775-294-2200)

You are being asked to participate in a research study whose purpose is to compare two teaching models. You will be given a multiple choice and short answer tests to compare with another class in the study to see if the teaching model you were taught with allowed you to learn better. You’re being asked to participate because you are a student in one of two of Mr. Schnaible’s 11th grade American history classes that have been selected. The study has been approved by both Mr. Schnaible and your school’s principal.

You will be taught by a student investigator from the University of Nevada Reno two lessons on two different school days. You will be taught with two different teaching models, one with lecture, consisting of PowerPoint and note-taking and the other an investigation, consisting of hands-on activities. You will take a pre-test and post-test with each lesson to see if there was improvement and to compare their scores with the other class participating in the study. The class will be managed with the same rules that have been implemented by Mr. Schnaible.

There may be no direct benefits to you as a participant, but it is possible that teachers will be interested in this study to offer new ways of teaching social studies. You will not be personally identified in any reports or publications that may result from this study. The Department of Health and Human Service (HHS), other federal agencies as necessary, the University of Nevada, Reno Social Behavioral Institutional Review Board and the University of Nevada Reno may inspect your study records.

You may refuse to participate or withdraw from the study at any time, but you will still be included in the lesson just not tested or included in the study. If you have questions about this study or wish to not be involved in this study, please contact Dr. Margaret Ferrara (775-682-7530) or Danika Keating (775-294-2200), or write something handwritten to Mr. Schnaible stating such. Otherwise, you will be included in the study.

You may ask about your rights as a research subject or you may report (anonymously if you so choose) any comments, concern, or complaints to the University of Nevada, Reno Social Behavioral Institutional Review Board, telephone number (775) 327-2368, or by addressing a letter to the Chair of the Board, c/o UNR Office of Human Research Protection, 205 Ross Hall / 331, University of Nevada, Reno, Reno, Nevada, 89557.

Thank you for your time.
Dr. Margaret Ferrara, PhD
Danika Keating
**Appendix B**

**Parental Information Sheet**

**TITLE OF STUDY:** Inquiry-based Instruction versus Direct Instruction: Teaching Models’ Support of Students’ Critical Thinking and Comprehension

**INVESTIGATOR(S):** Dr. Margaret Ferrara (775-682-7530) & Danika Keating (775-294-2200)

**PROTOCOL #:** SB09/10-085

**SPONSOR:** University of Nevada Reno, Office of Undergraduate Research

**PURPOSE**

You are being asked to allow your child to participate in a research study whose purpose is to compare two teaching models. The students will be given a multiple choice and short answer test to compare with another class in the study to see if the teaching model they were taught with allowed them to learn better and enhance their critical thinking more than the other.

**PARTICIPANTS**

Your child is being asked to participate because he/she is a student in an 11th grade American history class. The study includes two 11th grade American history classes, around 70 students, who are taught by Mr. Schnaible. The study has been approved by both Mr. Schnaible and Carson High School’s principal.

**PROCEDURES**

If you do allow your child to participate in this research study he/she will experience the following:

1) A student investigator will teach two lessons that will occur on two different regular school days. They will take approximately 50 minutes with student involvement.

2) They will be taught once with a new method and once with a standard lecture. The lecture will consist of a PowerPoint and note-taking, while the new method will include hands-on activities.

3) They will take a pre-test and post-test after each lesson to see if there was improvement overall in the class and to compare their class scores with the other class participating in the study that received the alternate teaching model.

4) The class will be managed with the same rules that have been implemented by the students’ normal teacher, Mr. Schnaible, and your child will be removed from the study if the typical rules of the classroom call for the removal of the student from the classroom.

**ALTERNATIVES**

The two classes in the study will be taught with two different teaching models. The first, lecture, will consist of a standard lecture, PowerPoint, and note-taking. The second will be an exploration consisting of hands-on activities working with the historical information. The teaching model is
the only difference; the tests and subjects being taught will be the same for the two classes. This will allow your student not only to experience a new way to learn, but may also allow your student to discover which way he/she learns better.

DISCOMFORTS, INCONVENIENCES, AND/OR RISKS

There will be no inconveniences or risks.

BENEFITS

It may be found that inquiry based teaching methods are better in Social Studies classes than standard lectures.

CONFIDENTIALITY

Your child’s identity will be protected to the extent allowed by law. He/she will not be personally identified in any reports or publications that may result from this study. The Department of Health and Human Service (HHS), other federal agencies as necessary, the University of Nevada, Reno Social Behavioral Institutional Review Board and the University of Nevada Reno may inspect your child’s study records. The study data will be de-identifiable so your student cannot be identified and records will be securely stored. The data collected will not be compared by individual but by class.

COSTS/COMPENSATION

There will be no cost to your child nor will he/she be compensated for participating in this research study.

RIGHT TO REFUSE OR WITHDRAW

You may refuse for your child to participate or withdraw your child from the study at any time without penalty. If the study design or use of the data is to be changed, you will be so informed and your consent re-obtained. You will be told of any significant new findings developed during the course of this study, which may relate to your willingness to continue participation. Your child’s grades will not be affected.

QUESTIONS & ALLOWING YOUR CHILD TO PARTICIPATE

If you have questions about this study or wish to opt out your child from this study, please contact Dr. Margaret Ferrara (775-682-7530) or Danika Keating (775-294-2200) or give something handwritten to Mr.Schnaible stating such. Otherwise, your student will be included in the study. You may ask about your child’s rights as a research subject or you may report (anonymously if you so choose) any comments, concern, or complaints to the University of Nevada, Reno Social Behavioral Institutional Review Board, telephone number (775) 327-2368, or by addressing a letter to the Chair of the Board, c/o UNR Office of Human Research Protection, 205 Ross Hall / 331, University of Nevada, Reno, Reno, Nevada, 89557.

Thank you for your time.
Dr. Margaret Ferrara, PhD
Danika Keating
Appendix C

*Script to be given to students before the lesson*

My name is Danika Keating and I am a student at UNR. I am studying how students your age learn the best. I’m going to be teaching you a history lesson today that will help me see if how I teach you helps you learn better. Mr. Schnaible passed out a letter from me informing you exactly what’s going to happen, but I want to emphasize a few things. I’m going to be giving you a test but the test will not affect your grade in this class; the tests are just a way to help me compare your class to another class I’m working with. Also, you have the right to not be tested and not be included in this study, but you will still be involved in the lesson. I really appreciate your time and I hope you will enjoy the lesson and do the test I give to the best of your ability. If you have any questions or would like me to clarify anything please ask now. If you or your parent has decided to not be involved you know who you are and you will not be expected to take the test. If you decide you do not want to be involved now let me know when I hand out the test. After the test turn over your paper and I will collect them when everyone’s done. You will not get in trouble for not taking the test, but again the test will not affect your grades and this is only to help me and others be able to see if there are better ways to educate you.
The Rise of Hitler

Total Points _____/100

Multiple Choice. Please select the best answer(s) for each question. (2 pts each)

1) Which of these is not a reason why the German people supported Adolf Hitler when he was rising to power?
   a) He promised to solve Germany's problems.
   b) He promised to make Germany proud again.
   c) He promised to exterminate the Jews.
   d) He blamed Germany's problems on minority groups.

2) What was the first thing Hitler did when he came into power?
   a) Rearmed Germany.
   b) Took over Austria.
   c) Created concentration camps.
   d) Invaded Poland.

3) Which is most likely the reason Hitler wasn't stopped by the international community?
   a) Other countries wanted to avoid war.
   b) Other countries were not concerned with Germany- they had their own problems.
   c) Other countries were not aware of his violations of the Versailles Treaty.
   d) Other countries trusted him.

4) Hitler saw that the best way(s) to protect Germany's rights was to________________
   a) Break the Treaty of Versailles.
   b) Create an armed service.
   c) Honor the Treaty of Versailles.
d) Appease other countries’ demands.

5) What did Germany not have when Hitler was rising to power?
   a) Unemployment.
   b) An impoverished middle class.
   c) High control.
   d) A broken spirit.

6) The German public saw Hitler as ______________
   a) A lunatic.
   b) A messiah.
   c) A family man.
   d) A dangerous dictator.

7) Hitler was most notable for which talent?
   a) Speeches.
   b) Art.
   c) Womanizing.
   d) Foreign diplomacy.

8) What was the main purpose of the pictures and posters of Hitler?
   a) To show Hitler's true character
   b) To ease other countries’ fears.
   c) No intentions, they’re only artistic.
   d) Propaganda to seduce Germans.

9) According to the pictures of Hitler, he most likely wanted to be seen as ______________
   a) Personable and likeable.
   b) Strong and patriotic.
   c) Sensitive and artistic.
   d) Scary and sadistic.

10) Most Germans ______________
    a) Thought Hitler was crazy, but had good ideas.
    b) Thought Hitler would become unpopular quickly.
c) Thought Hitler would help make the world a peaceful place.
d) Thought he was inspirational and passionate.

**Short Answer – 80 pts total**

11) What are things you've seen in today's world events that resemble anything from when Hitler rose to power? *(20 pts)*

12) After answering please include at least 3 recommendations you would give to prevent what happened in Germany to happen again and the reason for each. *(20 pts)*

Recommendation 1

Reason

Recommendation 2

Reason
Recommendation 3

Reason

13) Select and justify who you thought was most at fault for Hitler rising to power? In your answer, explain what he, she, or they did that helped Hitler rise to power. (20 pts)

14) Use five sentences or more to describe what might have happened if others had come forward and stopped Hitler’s rise to
Appendix E

The Rise of Hitler-Direct Instruction Lesson Plan

Name of Class:  US History

Grade Level:  11th

Name of Teacher: Danika Keating

Length of Lesson:  45 minutes

Overview:

This lesson is about the rise of Hitler before WWII. It is taught through Direct Instruction consisting of lecture and note taking.

Standards:

History 8.12.6 E Describe the causes, course, character, and effects of World War II

Objectives:

SWBAT analyze primary sources by making observations.

SWBAT be actively engaged in a lecture by completing a note taking worksheet.

Assessment:

Filled out note taking sheet.

Pre- and post- test assessments.

The Lesson:

- Administer the pre-assessment.
- Handout their note-taking sheet. They must follow along with the lecture and fill in the blanks.
- Go through PowerPoint. Stop at pictures to let them write down observations.
- Have them turn in their completed note-taking sheet.
- Administer the post-assessment.

Materials List:

PowerPoint
Handouts for note taking
Pre- and post- tests.
Note Taking Sheet

1. Hitler was born in the country of ________________.

2. In Vienna, Hitler was ________________.

3. Hitler served in ________________ and was promoted for bravery.

4. Hitler impressed the founder of the German Worker’s Party because of his ________________ skills.

5. NAZI stands for ________________.

6. By __________ Hitler secured control of the Nazi Party.

7. Nazis promised to solve Germany’s problem because it was in a deep ________________.

8. Hitler made ________________ the German people what they wanted to hear and provided ________________ for their problems.

9. After Hitler came to power he attacked the ________________ and disregarded the ban on ________________.

10. Hitler aimed at ________________ German territory.

11. Once Hitler went to take over ________________, WWII was inevitable.

12. Most countries at the time wanted to ________________ war.

13. Write your observations of some of the pictures:

   o
   o
People always say if we could go back and kill Hitler, would we?

The fact is how could have anyone then have known what he would become and do to become infamous.

He looks normal, right?

WHERE DID HE CAME FROM?

- Adolf Hitler was born on April 20th, 1889 in Braunau-am-Inn, Austria.
- His mother, Klara, had three other children who died very young. His mother died when he was 13.
- Adolf Hitler grew up with a poor record at school and left, before completing his tuition, with an ambition to become an artist.

AS A TEEN

- When Adolf was nineteen and from then onwards he had no relatives willing or able to support him.
- In 1909, he moved to Vienna in the hope of somehow earning a living.
- Within a year he was living in homeless shelters and eating at charity soup-kitchens.

AS A YOUNG ADULT

- In 1913 Adolf Hitler, still a penniless vagrant, moved to Munich in southern Germany.
- At the outbreak of the First World War, in 1914, he volunteered for service in the German army.
- Hitler fought bravely in the war and was promoted to corporal and decorated [presumably the regimental captain who recommended him for the award was Jewish].
IT BEGINS

- he was asked to become part of a local army organization which was responsible for persuading returning soldiers not to turn to communism or pacifism.
- During a meeting of the German Workers' Party he became so incensed by one of the speeches that he delivered a fierce heckle to the speaker.
- The founder of the party, Anion Drexler, was so impressed by Hitler's tirade that he asked him to join their organization.

- Given responsibility for publicity and propaganda, Hitler first succeeded in attracting over a hundred people to a meeting held October at which he delivered his first speech to a large audience. The meeting and his oratory were a great success.
- The name of the party he belonged to was the National Socialist German Workers Party (or Nazi for short).
- Hitler continued to expand his influence in the party and began to form a private group of thugs which he used to quash disorder at party meetings and later to break up rival party's meetings.

By 1921 Adolf Hitler had virtually secured total control of the Nazi party

- Hitler then proceeded to turn the tables on the committee members and forced them to accept him as formal leader of the party with dictatorial powers.

- Led to his eventual becoming of a dictator of the country.
In Germany...

Germany was in a depression and the Nazis promised to solve the problems.

Hitler promised to make Germany proud again – it was exactly what people wanted to hear.

The German people supported Hitler because he promised them what they wanted and needed to hear.

Hitler used the Jews and other sections of society as scapegoats, blaming all the problems on them.

In Germany...

To Germans at the time Hitler made sense, he united everyone by providing explanations for Germany’s problems. He was almost like their messiah.

Hitler pledged something for every part of Germany society.

Later they were only too happy to overlook the Third Reich’s unsavory, murderous side.
PICTURES

- The previous & following pictures are what the Germany people saw. (Propoganda)
- On a side note...this was also what the rest of the world saw.
- Can you tell that this man was going to do all he did? Is there an indication in the pictures?
What actually happened?

Shortly after Hitler came to power in January 1933 he began to attack the Treaty of Versailles. First Hitler disregarded the ban on rearmament (weapons). Then he moved troops into the Rhineland (1936); united with Austria (1938) and set his sights on expanding German territory.

Some people regarded Hitler as a strong leader merely getting back German territory. They thought he would stop once he had achieved a reversal of the Treaty of Versailles.

But Hitler took over Czechoslovakia in 1939, which contained no German speakers - nor had it ever been part of Germany.

The next to go would be Poland, bringing about the beginning of the Second World War.
The most common question asked is whether or not the British government should have done more to stop him earlier.

But to have stopped Hitler might have meant declaring war - a massive decision when most countries wanted to avoid war at all cost.

What does everything you've seen say to you?

How did the German perspective Hitler differ from other countries'?

Could you see anything like that today?

What do see in today's world or recent events that may strike you as similar to anything you've learned today?

Last thought...

So, anyone after this investigation, would you in 1940 or earlier, with what you've seen and heard, providing you were lucky enough to have all this evidence at your disposal, staked your life on that Hitler 100% would've done what he eventually did?
Appendix F

The Rise of Hitler-5E Lesson Plan

Name of Class:  US History
Grade Level:  11th
Name of Teacher: Danika Keating
Length of Lesson:  45-55 minutes

Overview:

This lesson is about the rise of Hitler before WWII. It is taught through Direct Instruction consisting of lecture and note taking.

Standards:

History 8.12.6 E Describe the causes, course, character, and effects of World War II

Objectives:

SWBAT analyze primary sources by making observations.
SWBAT be actively engaged in a lecture by completing a note taking worksheet.

Assessment:

Filled out note taking sheet.
Pre- and post-test assessments.

The Lesson:

- Administer the pre-assessment.
- Engagement: Brainstorm: Hitler- what comes to mind?
  - Stations and 5 rounds.
  - Notify the students every 5 minutes they should be moving onto a new station to stay on track. They should be making quick observations.
- Explanation: short PowerPoint.
- Extension: Apply. Today’s dilemmas and today’s scary leaders. Iran, Iraq, North Korea.

Materials List:

PowerPoint, packets for students, packets for stations, and pre- and post-tests.
<table>
<thead>
<tr>
<th>HYPOTHESIS/STATEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVIDENCE #</td>
</tr>
<tr>
<td>NOTES: WHAT YOU SEE, FEEL, ETC.</td>
</tr>
<tr>
<td>INFERENCES YOU CAN MAKE</td>
</tr>
</tbody>
</table>

| CONCLUSIONS (REVISIT BEGINNING STATEMENT) & WHY |
People always say if we could go back and kill Hitler, would we?
The fact is how could have anyone then have known what he would become and do to become infamous.

He looks normal, right?

CSI: History

Today you are all detectives.

You will investigate evidence to determine if the world before WWII could have known what Hitler was capable of and if they had enough proof to do something earlier.

CSI: HISTORY: Become Investigators!

In other words:

• Look at primary documents and historical evidence to determine how Hitler was viewed at the time.

• Think about if how he was perceived had an impact on the lack of intervention by the world community.

For speeches and pictures:

Watch for what makes a speaker spellbinding, such as tone of voice, commanding appearance, appeal to emotionalism, dramatic delivery, and so on.

Hypothesis/Statement

| Evidence # | Notes: What you see, feel, etc. | Inferences you can make |

Conclusions (revisit beginning statement) and why:
FYI: You don’t need notes on every piece of evidence.

Although, the more you have the better conclusions and stronger your reasoning is when you write at the end.

Feel free to share evidence with others and vice versa.

25 MINUTES TOTAL
5 MINUTES PER TABLE

GIVE SIGNAL WHEN YOU SHOULD MOVE TO KEEP ON TRACK

BUT IF YOU WANT TO STAY AT A TABLE LONGER THAT’S OK

YOU CAN MOVE BETWEEN TABLES WHEN YOU LIKE

TRY AND VISIT EACH TABLE AT LEAST ONCE

SHARE AND RESPECT EACH OTHER

DISCUSSION IS ENCOURAGED.

Hitler Speaking

Hint: Watch for body language and others reaction to him...

EVIDENCE #17


What actually happened?

Shortly after Hitler came to power in January 1933 he began to attack the Treaty of Versailles.

First Hitler disregarded the ban on rearmament (weapons).

Then he moved troops into the Rhineland (1936); united with Austria (1938) and set his sights on expanding German territory.

Some people regarded Hitler as a strong leader merely getting back German territory.

They thought he would stop once he had achieved a reversal of the Treaty of Versailles.

But Hitler took over Czechoslovakia in 1939, which contained no German speakers – nor had it been ever been part of Germany.

The next to go would be Poland, bringing about the beginning of the Second World War.

The most common question asked is whether or not the British government should have done more to stop him earlier.

But to have stopped Hitler might have meant declaring war - a massive decision when most countries wanted to avoid war at all cost.
In Germany...
Germany was in a depression and the Nazis promised to solve the problems.

Hitler promised to make Germany proud again - it was exactly what people wanted to hear.

The German people supported Hitler because he promised them what they wanted and needed to hear.

Hitler used the Jews and other sections of society as scapegoats, blaming all the problems on them.

To Germans at the time Hitler made sense, he united everyone by providing explanations for Germany's problems.

Hitler pledged something for every part of Germany society.

Later they were only too happy to overlook the Third Reich's unsavory, murderous side.

What do see in today's world or recent events that may strike you as similar to anything you've learned today?

HINT: Middle East and North Korea maybe.
Lesson One Inquiry Materials

Hitler Quotes

“An evil exists that threatens every man, woman and child of this great nation. We must take steps to ensure our domestic security and protect our homeland.” - 1939

All great movements are popular movements. They are the volcanic eruptions of human passions and emotions, stirred into activity by the ruthless Goddess of Distress or by the torch of the spoken word cast into the midst of the people.

All propaganda has to be popular and has to accommodate itself to the comprehension of the least intelligent of those whom it seeks to reach.

Any alliance whose purpose is not the intention to wage war is senseless and useless.

Anyone who sees and paints a sky green and fields blue ought to be sterilized.

As a Christian I have no duty to allow myself to be cheated, but I have the duty to be a fighter for truth and justice.

As soon as by one’s own propaganda even a glimpse of right on the other side is admitted, the cause for doubting one’s own right is laid.

By the skillful and sustained use of propaganda, one can make a people see even heaven as hell or an extremely wretched life as paradise.

Demoralize the enemy from within by surprise, terror, sabotage, assassination. This is the war of the future.

Generals think war should be waged like the tourneys of the Middle Ages. I have no use for knights; I need revolutionaries.

Germany will either be a world power or will not be at all.

Great liars are also great magicians.

Hate is more lasting than dislike.

He alone, who owns the youth, gains the future.

How fortunate for governments that the people they administer don't think.

Humanitarianism is the expression of stupidity and cowardice.

I believe today that my conduct is in accordance with the will of the Almighty Creator.

I do not see why man should not be just as cruel as nature.

I go the way that Providence dictates with the assurance of a sleepwalker.

I use emotion for the many and reserve reason for the few.

If today I stand here as a revolutionary, it is as a revolutionary against the Revolution.
If you tell a big enough lie and tell it frequently enough, it will be believed.

It is always more difficult to fight against faith than against knowledge.

It is not truth that matters, but victory.

Make the lie big, make it simple, keep saying it, and eventually they will believe it.

Mankind has grown strong in eternal struggles and it will only perish through eternal peace.

Sooner will a camel pass through a needle's eye than a great man be "discovered" by an election.

Strength lies not in defense but in attack.

Struggle is the father of all things. It is not by the principles of humanity that man lives or is able to preserve himself above the animal world, but solely by means of the most brutal struggle.

Success is the sole earthly judge of right and wrong.

The art of leadership... consists in consolidating the attention of the people against a single adversary and taking care that nothing will split up that attention.

The broad masses of a population are more amenable to the appeal of rhetoric than to any other force.

The day of individual happiness has passed.

The doom of a nation can be averted only by a storm of flowing passion, but only those who are passionate themselves can arouse passion in others.

The great masses of the people will more easily fall victims to a big lie than to a small one.

The great strength of the totalitarian state is that it forces those who fear it to imitate it.

The leader of genius must have the ability to make different opponents appear as if they belonged to one category.

The very first essential for success is a perpetually constant and regular employment of violence.

The victor will never be asked if he told the truth.

Those who want to live, let them fight, and those who do not want to fight in this world of eternal struggle do not deserve to live.

Through clever and constant application of propaganda, people can be made to see paradise as hell, and also the other way round, to consider the most wretched sort of life as paradise.
Hitler's Conversation with Josef Hell, 1922

When Hell asked Hitler what he intended doing if he ever had full freedom of action against the Jews, his response was:

"If I am ever really in power, the destruction of the Jews will be my first and most important job. As soon as I have power, I shall have gallows after gallows erected, for example, in Munich on the Marienplatz—as many of them as traffic allows. Then the Jews will be hanged one after another, and they will stay hanging until they stink. They will stay hanging as long as hygienically possible. As soon as they are untied, then the next group will follow and that will continue until the last Jew in Munich is exterminated. Exactly the same procedure will be followed in other cities until Germany is cleansed of the last Jew!" (quoted in John Toland, Adolf Hitler. London: Book Club Associates, 1977, p.116)
MORE than fourteen years have passed since the unhappy day when the German people, blinded by promises from foes at home and abroad, lost touch with honor and freedom, thereby losing all. Since that day of treachery, the Almighty has withheld his blessing from our people. Dissension and hatred descended upon us. With profound distress millions of the best German men and women from all walks of life have seen the unity of the nation vanishing away, dissolving in a confusion of political and personal opinions, economic interests, and ideological differences. Since that day, as so often in the past, Germany has presented a picture of heartbreaking disunity. We never received the equality and fraternity we had been promised, and we lost our liberty to boot. For when our nation lost its political place in the world, it soon lost its unity of spirit and will....

The misery of our people is horrible to behold! Millions of the industrial proletariat are unemployed and starving; the whole of the middle class and the small artisans have been impoverished.

The National Government will regard it as its first and foremost duty to revive in the nation the spirit of unity and co-operation. It will preserve and defend those basic principles on which our nation has been built. It regards Christianity as the foundation of our national morality, and the family as the basis of national life.

Turbulent instincts must be replaced by a national discipline as the guiding principle of our national life. All those institutions which are the strongholds of the energy and vitality of our nation will be taken under the special care of the Government.

The National Government intends to solve the problem of the reorganization of trade and commerce with two four-year plans:

The German farmer must be rescued in order that the nation may be supplied with the necessities of life....

A concerted and all-embracing attack must be made on unemployment in order that the German working class may be saved from ruin....

The securing of the necessities of life will include the performance of social duties to the sick and aged.

As regards its foreign policy the National Government considers its highest mission to be the securing of the right to live and the restoration of freedom to our nation. Its determination to bring to an end the chaotic state of affairs in Germany will assist in restoring to the community of nations a State of equal value and, above all, a State which must have equal rights. It is impressed with the importance of its duty to use this nation of equal rights as an instrument for the securing and maintenance of that peace which the world requires today more than ever before.
...World history teaches us that no people became great through economics: it was economics that brought them to their ruin. A people died when its race was disintegrated. Germany, too, did not become great through economics.

A people that in its own life [volkisch] has lost honor becomes politically defenseless, and then becomes enslaved also in the economic sphere.

Internationalization today means only Judaization. We in Germany have come to this: that a sixty-million people sees its destiny to lie at the will of a few dozen Jewish bankers. This was possible only because our civilization had first been Judaized. The undermining of the German conception of personality by catchwords had begun long before. Ideas such as 'Democracy,' 'Majority,' 'Conscience of the World,' 'World Solidarity,' 'World Peace,' 'Internationality of Art,' etc., disintegrate our race-consciousness, breed cowardice, and so today we are bound to say that the simple Turk is more man than we are.

No salvation is possible until the bearer of disunion, the Jew, has been rendered powerless to harm.
I had a talk last night with COUNT ALBRECHT BERNSTORFF, who has just arrived in London from Berlin. As is well known, he is a rabid anti-Nazi, and this fact must be taken into consideration in estimating the truth of his remarks. He was as usual full of stories and most entertaining. Compared with other opponents of the régime whom I know, his boldness is amazing, and he does not suffer, as most do, from the nervous glance over the shoulder (known as "der deutsche Blick") when speaking about conditions in Germany. I record some of his remarks in case they are of interest.

Count Bernstorff said that Herr Hitler has lately been more frequently subject to fits, in the course of which he foams at the mouth and becomes very violent. One such fit occurred a short time ago when he drove through Munich and saw that the rebuilding which he had planned was not progressing as fast as he had expected. On being told that the reason was the lack of iron and steel, he developed a fit and became so violent that he had to be restrained by his A.D.C.'s till a doctor could be sent for to give him a sedative injection. Herr Hitler's main occupation nowadays is town-planning and he plays about all day long with models of Berlin, Nuremberg and Munich. He takes practically no interest in anything else. None of his Ministers, except Goebbels and Goering, can be certain of access to him. His favourite companions are men such as Julius Streicher. Goebbels is, according to Count Bernstorff, somewhat out of favour at the moment and has lost influence in the country. Nevertheless, Hitler continues to use him as a source of ideas which he work up in his speeches.
Excerpt from the speech given by Adolf Hitler in Munich on March 15, 1929.

“The entire struggle for survival is a conquest of the means of existence, which in turn results in the elimination of others from these same sources of subsistence. As long as there are peoples on this earth, there will be nations against nations and they will be forced to protect their vital rights in the same way as the individual is forced to protect his rights. One is either the hammer or the anvil. We confess that it is our purpose to prepare the German people again for the role of the hammer. For ten years we have preached, and our deepest concern is: How can we achieve power? We admit freely and openly that if our movement is victorious, we will be concerned day and night with the question of how to produce the armed forces which are forbidden to us by the peace treaty [Treaty of Versailles]. We solemnly confess that we consider everyone a scoundrel who does not try day and night to figure out a way to violate this treaty, for we have never recognized this treaty…. We will take every step which strengthens our arms, which augments the number of our forces, and which increases the strength of our people. We confess further that we will dash anyone to pieces who should dare to hinder us in this undertaking…. Our rights will never be represented by others. Our rights will be protected only when the German Reich is again supported by the point of the German dagger.”
Report by Mr. Law, a British businessman, who worked in Germany

I am told, on what I believe to be very good German authority, that really the most dangerous man of all is the Führer himself. He falls into fits of passion and will listen to no advice. It was on his orders and against the advice of the Foreign Office and the army that recently an American was beheaded. It was again on his direct orders and before he could receive any advice that the bombardment of Almeria took place.

If this is true – as I believe it to be – the picture is not a cheerful one. No one wants war; certainly, but when you have a passionate lunatic at the top who still commands the devotion of the populace and who is evidently prepared to run great risks, then already the situation is dangerous. But when, besides that, the Russian army appears not exactly at the height of its efficiency, when (as it is believed in Germany) France is tottering on the edge of communism and Franco is at the gates of Bilbao, then we ought to be on our guard.

I was told in Berlin that another publicity campaign was contemplated in England by the usual make-some-concessions-shake-the-hand-of-our-German-cousins group. This I am informed both by Englishmen in Berlin and by patriotic Germans who do not like Nazism would be at this juncture a most disastrous mistake. No further advances should be made to Germany at the present time.
A short description of Hitler prepared by the British Embassy in Berlin January 1937

Hitler is a man of simple tastes, a vegetarian for health reasons, a non-smoker and teetotaller. Possessed of extraordinary vitality, four hours’ sleep and twenty hours’ work make up his normal working day. He is constantly on the move, usually by aeroplane or fast car. He manages to spend most week-ends at a little châlet in the Bavarian hills, the property of his sister. The profit on the enormous sales of Mein Kampf alone has made Hitler a rich man. He dislikes ceremony, and is only at his ease among his intimates, Hess, Brückner, &c.

As a speaker, Hitler exercises astonishing sway over a German audience, presumably because public speaking is an unknown art in Germany. His speeches are practically repetitions of a few simple main theses, in the course of which platitudes are uttered with such extraordinary emphasis that an unsophisticated audience mistakes them for newly minted political aphorisms. He has sized up the German audience during his fifteen years of apprenticeship with astonishing accuracy. This and an undeniable political instinct have brought him to the top of the tree. None of his followers approach him in demagogic talent. He alone can rouse the crowd to that state of political frenzy which makes all argument futile.

In appearance Hitler is unprepossessing, but is said to possess a certain charm of manner. Beyond an unfortunate love affair, in the course of which the object of his choice, a Munich lady of good social standing, rejected his suit, Hitler seems to have had little to do with the fair sex.
“Adolf Hitler is the victory!”

Long Live Germany”
Appendix G

Pre- & Post-Assessment for Lesson Two

The Atomic Bomb

Total Points ____/100

Multiple Choice. Please select the best answer(s) for each question. (2pts)

1) The deadly radiation created by a nuclear blast was called
   a) Kamikazes
   b) Baby boom
   c) Microwaves
   d) Fallout

2) The American program to build an atomic bomb was called
   a) the Manhattan Project
   b) D-Day
   c) Operation Overlord
   d) Operation Liberty

3) A United States bomber dropped the first atomic bomb on
   a) Hiroshima
   b) Nagasaki
   c) Tokyo
   d) Iwo Jima

4) To get resources, the Japanese military invaded
   a) Taiwan
   b) Korea
   c) Tibet
   d) Manchuria
5) Code-name for the atomic bomb dropped on Hiroshima

a) Hedgerows
b) "Little Boy"
c) Nuremburg
d) UN

6) Faced with the massive destruction caused by atomic bombs and the shock of the Soviets joining the war, the Japanese emperor ordered his government to surrender on August 15, 1945 – Today this is called ___________

a) Armistice Day
b) V-E Day
c) V-J Day
d) Veterans Day

7) The person who led the American team of engineers and scientists building the atomic bomb was _____________

a) A. Philip Randolph
b) Benjamin O. Davis
c) Albert Einstein
d) Robert Oppenheimer

8) The Atomic Bomb ______________

a) led to the end of the war
b) fueled a longer war
c) did not have the level of effect that it was intended to have
d) was unsuccessful

9) Immediately before the bomb was dropped, ________________

a) Japan intended to attack the USA
b) Japan was getting stronger
c) Japan had tried to surrender and enter in peace talks
d) The US had tried to enter peace talks with Japan
10) The United States accepted Japan's surrender__________
   a) before the first atomic bomb
   b) after the first atomic bomb
   c) after the second atomic bomb
   d) after the third atomic bomb

   **Short Answer - 80 pts total**

11) During WWII, American decision-makers knew the terrible destructive power of the atomic bomb and debated whether to use it against Japan. Describe what you think might have been at least two arguments on each side of the debate. (20 pts)

   Pro (2 reasons)

   Con (2 reasons)

   Why do you think President Truman finally decided to use it? Give at least three specific examples. (20 pts)
12) **Develop a sound argument to take a stand on these questions:**

Do you think the use of the atomic bomb was necessary? Why or why not? (10 pts)

Was it right? Why or why not? (10 pts)

Why do you think the US did not accept Japan's surrender and used the atomic bomb anyway? (10 pts)

Speculate what would have happened in the war and with the US's place in the world if the atomic bomb had not been used. (10 pts)
Appendix H

The Atomic Bomb-Direct Instruction Lesson Plan

Name of Class:  US History
Grade Level:  11th
Name of Teacher:  Danika Keating
Length of Lesson:  50 minutes

Overview:
This lesson is about the atomic bombs used at the end of WWII. It is taught through the Inquiry Model 5E.

Standards:
History 8.12.6 E Describe the causes, course, character, and effects of World War II, including: legacy of WWI, campaigns and strategies, atomic bomb, significant military, political, and scientific leaders, the Big Four, United Nations, U.S. changing world status, war crimes trials.

Objectives:
SWBAT analyze historical information and come to a personal decision on the morality of the atomic bomb.
SWBAT be actively engaged in the lesson by completing a handout.

Assessment:
Filled out note taking sheet.
Pre- and post- test assessments.

The Lesson:
- Administer the pre-assessment.
- Handout their note-taking sheet. They must follow along with the lecture and fill in the blanks.
- Go through PowerPoint.
- Have them turn in their completed note-taking sheet.
- Administer the post-assessment.

Materials List:
PowerPoint, Handouts for note taking, Pre- and post- tests.
Note Taking Sheet

14. __________ Project was the name for the program to create the atomic bomb.

15. The leader of the program to make the atomic bomb was ________________.

16. ______________ was the first city to have the atomic bomb dropped on it.
   The bomb used was named ________________.

17. ______________ was the second city to have the atomic bomb dropped on it.
   The bomb used was named ________________.

18. List and describe three reasons that are used to support the use of the atomic bomb:
   ○ 
   ○ 
   ○ 

19. List three reasons that are against the use of the atomic bomb:
   ○ 
   ○ 
   ○
THE MANHATTAN PROJECT

- Over the course of six years, from 1939 to 1945, more than $2 billion was spent.
- The formulas for refining uranium and putting together a working atomic bomb were created by some of the greatest minds of our time.
- Chief among those people was Robert Oppenheimer.

TRINITY TEST
JULY 16, 1945

- On July 16, 1945, when the atomic bomb was tested at Trinity, Los Alamos scientists were the first humans to witness the power of a nuclear weapon.
- Even 32 kilometers (20 miles) away, observers felt the heat of the explosion on exposed skin.
- The radiation level in the rising mushroom cloud was so intense that it emitted a blue glow.

TRINITY TEST

- Upon witnessing the explosion, its creators had mixed reactions.
- Robert Oppenheimer, though ecstatic about the success of the project, quoted "I am become Death, the destroyer of worlds."
- After viewing the results, several participants signed petitions against losing the monster they had created, but their protests fell on deaf ears.

HIROSHIMA

- The atomic bomb has been used only twice in warfare.
- The first was at Hiroshima, a uranium bomb nicknamed "Little Boy" dropped August 6, 1945.
- In an instant, 66,000 people were killed and 69,000 injured by a 10-kiloton atomic explosion.
- The area of total vaporization from the atomic bomb blast measured one half mile in diameter. Within a diameter of two and a half miles, everything flammable burned.

NAGASAKI

- On August 9, 1945, Nagasaki fell to the same treatment. This time a Plutonium bomb nicknamed "Fat Man" was dropped on the city.
- It leveled nearly half the city.
- In a split second, Nagasaki’s population dropped from 422,000 to 383,000. Over 25,000 people were injured.
- Japan offered to surrender on August 10, 1945. *VJ Day= Victory in Japan Day*
**WAS THE BOMB THE RIGHT THING TO DO?**

- There are arguments on both sides as to whether the decision to drop two atomic bombs was moral and right.

**THE BOMB WAS THE RIGHT THING TO DO**

- It wasn’t guaranteed as to whether the Japanese were going to surrender. The Japanese had demonstrated near-fanatical resistance, fighting to almost the last man on the Pacific islands, committing mass suicide and unleashing suicide kamikaze attacks.

- Firebombing had killed 100,000 in Tokyo with no political effect.

- The Potsdam Declaration of July 26, issued by the Allied powers and calling for “unconditional surrender,” was not acceptable to the Japanese military, despite the declaration’s threat that failure to surrender would be met by “complete destruction.”

- They were still trying to get supplies. Japanese invaded the Chinese city.

**WHY 2 BOMBS?**

- With only two bombs ready (and a third on the way by late August 1945) it was too risky to “waste” one in a demonstration over an unpopulated area.

- Truman said he authorized the use of the atomic bombs on populated areas because that was the only way to shorten the war and save American lives.

- The two targeted cities would have been firebombed anyway.

**RISING POWER OF THE USSR**

- The bomb’s use impressed the Soviet Union and halted the war quickly enough that the USSR did not demand joint occupation of Japan.

- Negotiations would have given the Soviet Union time to advance into northern China and spread their influence (Communism).

- The bomb’s power may have influenced how much the Soviets were trying to expand their influence in Europe.

**AMERICAN CASUALTIES**

- The atomic bombing of Japan avoided the necessity of an invasion of Japan that would have resulted in casualties on both sides that could easily have exceeded the toll at Hiroshima and Nagasaki.

- By July 1945, U.S. forces in WWII had already suffered more than one million casualties.

- American prisoners of war in Japan were dying of starvation. Some had been tortured and others publicly executed. The Japanese government had announced that it would execute Allied pilots captured over Japan.

- Negotiations would only have prolonged the war.

**LONG TERM EFFECTS**

- Scientists at the time were not aware of the dangers of radiation and did not fully understand its potential. The radiation emitted from the explosion permeates the landscape; the bomb not only destroys people and buildings on impact, but its effects continue to harm the environment for many years.
DID JAPAN DESERVE IT?
• The American people expected their leaders live up to the pledge to achieve nothing less than unconditional surrender from Japan.
• They attacked Pearl Harbor, as well as tortured and executed American prisoners.
• The U.S. did not choose to fight WWII. Japan brought the war to American shores with Pearl Harbor.

THE BOMB WAS THE WRONG THING TO DO
• Was Japan still a threat?
• Japan was ready to call it quits. They had tried to surrender. More than 60 of its cities had been destroyed by conventional bombing and the home islands were being blockaded by the American Navy.
• Japanese offensive capabilities were exhausted. The navy and air force were almost totally destroyed by the summer of 1945.
• The Allied sea blockade of the Japanese islands had effectively cut supplies off food and war materials. Japanese oil shipments, ... misunderstanding

CULTURE MISUNDERSTANDING
• The Allied terms toward Japan were spelled out in the Potsdam Declaration. The declaration, however, did not address the postwar status of the Japanese emperor, whom the Japanese revered as divine. Japanese military officials had vowed to fight to the death to preserve the emperor’s position.
• American refusal to modify its “unconditional surrender” demand to allow the Japanese to keep their emperor needlessly prolonged Japan’s resilience.

DID THEY HAVE TO USE AN ATOMIC BOMB TO MAKE THE POINT?
• A demonstration explosion over Tokyo harbor would have convinced Japan’s leaders to quit without killing many people.
• Conventional firebombing would have caused as much significant damage without making the U.S. the first nation to use nuclear weapons.
• Alternatives were not tried.
DID THEY HAVE TO USE AN ATOMIC BOMB?
- Considering the resources involved in producing each atomic bomb, the US should not have wasted one, and especially two, on a statement.
- The effects of radiation poisoning are horrific, ranging from purple spots on the skin, hair loss, nausea, vomiting, bleeding from the mouth, gums, and throat, weakened immune systems, to massive internal hemorrhaging, not to mention the disfiguring radiation burns. The effects of the radiation poisoning continued to show up until about a month after the bombing. In fact, the bomb also killed or permanently damaged fetuses in the womb.

WHY A 2ND BOMB?
- Even if Hiroshima was necessary, the U.S. did not give enough time for word to filter out of its devastation before bombing Nagasaki.

TOO EXPENSIVE NOT TO USE?
- The bomb cost $2 billion to develop.
- By the time the atomic bomb was available, Japan was the only possible target.

WERE CIVILIANS TARGETS?
- The two cities were of limited military value. Civilians outnumbered troops in Hiroshima five or six to one.
- Many wonder whether dropping the bomb was necessary, especially the one dropped on Nagasaki—the second bomb that was released three days after the first. The bombs could have been detonated over less populated areas and still have proven the same point.
- Slaughtering thousands of innocent Japanese civilians when less destructive roads to peace are open is a violation of the values and principles for which Americans fought the war.

WERE CIVILIANS TARGETS?
- Atomic fallout creates another hazard as well. The rain that follows any atomic detonation is laden with radioactive particles. Many survivors of the Hiroshima and Nagasaki blasts succumbed to radiation poisoning due to this occurrence. The atomic detonation also has the hidden lethal surprise of affecting the future generations of those who live through it. Leukemia is among the greatest of afflictions that are passed on to the offspring of survivors.

RISING USSR
- Japanese lives may have been sacrificed simply for power politics between the U.S. and the Soviet Union.
- Harry Truman inherited a very expensive bomb project that had always aimed at producing a military weapon. He was told the bomb would be useful for impressing the Soviet Union.
- U.S. and Soviet officials increasingly locked horns over the political future of Eastern Europe and East Asia. The Truman administration came to fear that Soviet involvement in the war would lead to demands for territory and play into Stalin’s strategy to expand Soviet influence in East Asia.

OTHER REASONS FOR THE BOMB?
- The decision was maybe partially pushed by the want to avenge Pearl Harbor and the extreme racism of the Japanese by Americans.
- The atomic bomb was known to be able to wipe out an entire city at once and it was still used.
- Other tactics, like air bombardment and naval blockade, had brought Japanese to their knees, the bomb was maybe unnecessary.
BYPRODUCTS

While the explosion from an atomic bomb is deadly enough, its destructive ability doesn’t stop there. Atomic bomb fallout creates another hazard as well.

The rain that follows any atomic detonation is laden with radioactive particles, and many survivors of the Hiroshima and Nagasaki blasts succumbed to radiation poisoning.

AFTER...

During the early history of The Atomic Age, it was a popular notion that one day atomic bombs would be used to help mankind rather than be destructive, but needless to say, the military applications gathered the most attention.
Appendix I

The Atomic Bomb-5E Lesson Plan

Name of Class: US History
Grade Level: 11th
Name of Teacher: Danika Keating
Length of Lesson: 70 minutes

Overview:
This lesson is about the atomic bombs used at the end of WWII. It is taught through the Inquiry Model 5E.

Standards:
History 8.12.6 E Describe the causes, course, character, and effects of World War II, including: legacy of WWI, campaigns and strategies, atomic bomb, significant military, political, and scientific leaders, the Big Four, United Nations, U.S. changing world status, war crimes trials.

Objectives:
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Assessment:
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Pre- and post-test assessments.

The Lesson:

- Put handouts under desks
- Administer the pre-assessment.
- Engagement: Show video of atomic bomb.
- Exploration: Court room activity.
  - Count out kids into eights and separate them into four groups. Assign two to prosecution and two to defense. Hand out respective packets and handouts.
  - Give 20 minutes and then start presentations.
  - Presentations
    - Class vote.
- Explanation: short PowerPoint.
- Extension: Show short video on “Global Zero”

Materials List: PowerPoint, handouts for students, packets for groups, internet, and pre- and post-tests.
Law and Order: Atomic Bomb

By the time the atomic bomb was ready to use in July 1945, the defeat of Japan was the last important item remaining on the Allied wartime agenda. U.S. military officials had begun planning for large-scale landings on the Japanese main islands months earlier. Their initial strategy called for attacking the southernmost island of Kyushu. If necessary, more than 1.5 million troops would invade Japan’s largest island, Honshu, in March 1946. The toll on American forces was expected to be staggering. Instead of the invasion, in 1945, World War II ended with the dropping of the Atomic Bomb on both the cities Hiroshima and Nagasaki.

You are going to become teams of lawyers in a trial trying President Truman for his decision to use the atomic bomb. The object of this trial is to debate whether or not President Truman was justified in dropping two separate bombs on Japan or whether he is guilty of crimes of war and human atrocities. In other words, was the decision to use the atomic bomb on the Japanese cities of Nagasaki and Hiroshima right? You will be assigned either the defense or prosecution and will prepare arguments. The trial will be conducted as a group debate. You are trying to sway the “jury” to agree with your arguments. The jury will be the class who will vote at the end.

Here are the steps to follow:
1. Count off into eights. Separate into four groups. (Two groups will be prosecution, two groups will be defense.)
2. Create a summary of your evidence.
3. Pick 2 points of information you want to present- the strongest pieces of evidence. Anything underlined is important and should be addressed in the evidence.
4. Groups need to decide how they will present their opening statement and evidence.
5. One or more people will present each piece of evidence and explain why it’s important to their case.
6. Everyone needs to write down all the presented evidence on their handout.
7. At the end, look at the points made, write a paragraph on which way you will vote and why, then vote which way you think is right in a silent vote.

How the trial will proceed:
- Prosecution group A’s opening statement & presentation of evidence
- Defense group A’s opening statement & presentation of evidence
- Prosecution group B’s opening statement & presentation of evidence
- Defense group B’s opening statement & presentation of evidence
Prosecution: Truman should be convicted of murder, because the bomb was not necessary.

Opening Statement:

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**Defense:** Truman should be acquitted, because the bomb was necessary.

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<td><strong>Evidence</strong></td>
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Explanations

- Opening Statement (Introduction)
  - State your Argument. Are you pro or con? Was is the right thing to use the bomb or is Truman guilty for crimes against humanity?

- Evidence (Reasons)
  - State your 2 pieces of evidence and explain them.
  - Be persuasive.
  - Try and have different group members help present points. If only one person feels comfortable talking, that's fine.
  - Please present by standing in front of the class. Talk loud enough, look at your audience, and support your point with enough information.

------------------------ Vote ------------------------

Time to vote! Write paragraph on whether you think Truman is guilty of crimes against humanity (murder) or if he should be found not guilty and the use of the atomic bomb was justified. Include the evidence that swayed your vote.
**THE MANHATTAN PROJECT**

- Over the course of six years, from 1939 to 1945, more than $2 billion was spent.
- The formulas for refining uranium and putting together a working atomic bomb were created by some of the greatest minds of our time.
- Chief among those people was Robert Oppenheimer.

**TRINITY TEST**

- **JULY 16, 1945**
  - On July 16, 1945, when the atomic bomb was tested at Trinity, Los Alamos scientists were the first humans to witness the power of a nuclear weapon.
  - Even 32 kilometers (20 miles) away, observers felt the heat of the explosion on exposed skin.
  - The radiation level in the rising mushroom cloud was so intense that it emitted a blue glow.

**HIROSHIMA**

- The atomic bomb has been used only twice in warfare.
- The first was at Hiroshima, a uranium bomb nicknamed "Little Boy" dropped August 6, 1945.
- In an instant, 66,000 people were killed and 89,000 injured by a 10-kiloton atomic explosion.
- The area of total vaporization from the atomic bomb blast measured one half mile in diameter. Within a diameter of two and a half miles, everything flammable burned.

**TRINITY TEST**

- Upon witnessing the explosion, its creators had mixed reactions.
- Robert Oppenheimer, though ecstatic about the success of the project, quoted "I am become Death, the destroyer of worlds."
- After viewing the results several participants signed petitions against loosing the monster they had created, but their protests fell on deaf ears.
**NAGASAKI**

- On August 9, 1945, Nagasaki fell to the same treatment. This time a Plutonium bomb nicknamed "Fat Man" was dropped on the city.
- It leveled nearly half the city.
- In a split second, Nagasaki’s population dropped from 422,000 to 383,000. Over 25,000 people were injured.
- Japan offered to surrender on August 10, 1945. *VJ Day*—Victory in Japan Day

**BYPRODUCTS**

While the explosion from an atomic bomb is deadly enough, its destructive ability doesn’t stop there. Atomic bomb fallout creates another hazard as well.

The rain that follows any atomic detonation is laden with radioactive particles, and many survivors of the Hiroshima and Nagasaki blasts succumbed to radiation poisoning.

**AFTER...**

During the early history of The Atomic Age, it was a popular notion that one day atomic bombs would be used to help mankind rather than be destructive, but needless to say, the military applications gathered the most attention.

**TODAY**

http://www.globalzero.org/map
Lesson Two Inquiry Materials

**Prosecution (1) Handout**

Truman should be convicted of murder, because the atomic bombs were not necessary.

*The questions are there as guides.*

“My God, what have we done?” - Robert Lewis co-pilot of the Enola Gay

1. **Was Japan a threat anymore?**

   Japan was ready to call it quits. More than 60 of its cities had been destroyed by conventional bombing, the home islands were being blockaded by the American Navy, and the Soviet Union entered the war by attacking Japanese troops in Manchuria.

   Japanese offensive capabilities were exhausted. The navy and air force were almost totally destroyed by the summer of 1945, and the Japanese islands were completely cut off from the rest of the world.

   Allied efforts had taken a huge toll on Japan, and there were reasons to believe that Japan might be willing to surrender before an invasion by U.S. troops.

   The Allied sea blockade of the Japanese islands had effectively cut supplies off food and war materials. Japanese oil shipments, critical to the war effort, had been reduced by 85%.

   The Allied blockade prevented Japan from transporting the three million Japanese troops stationed in China back to their homeland.

   The U.S. air bombardment of Japanese cities had cut Japan’s industrial production to 40% of its wartime peak and had killed hundreds of thousands of Japanese civilians.

   180 square miles of Japanese urban areas had been leveled by General LeMay’s campaign. U.S. military planners believed that they would run out of targets within several months.

   Japanese diplomats indicated that they wanted an impartial third party to mediate their surrender using the Potsdam Declaration as the basis for negotiations.

2. **Did Truman understand Japanese culture?**

   The Allied terms toward Japan were spelled out in the Potsdam Declaration. The declaration, however, did not address the postwar status of the Japanese emperor,
whom the Japanese viewed as divine. Japanese military officials had vowed to fight to the death to preserve the emperor’s position.

American refusal to modify its "unconditional surrender" demand to allow the Japanese to keep their emperor needlessly prolonged Japan’s resistance.

The Japanese believe that the emperor is a direct descendent of the gods who created their islands and their people. The U.S. just had to understand this cultural issue, take their surrender minus giving up their emperor, and not use the atom bomb.

Permitting the emperor to remain would have strengthened the hand of the moderates in Japan who wished to end the war and weaken the position of militarist officials.

Maintaining the emperor as a national symbolic figurehead would have promoted stability in postwar Japan and lend legitimacy to US occupation forces.

3. **Was the Atomic bomb overkill in a sense?**
A demonstration explosion over Tokyo harbor would have convinced Japan’s leaders to quit without killing many people.

Conventional firebombing would have caused as much significant damage without making the U.S. the first nation to use nuclear weapons.

Alternatives were not tried.

Considering the resources involved in producing each atomic bomb, the US should not have wasted one, and especially two, on a statement.

The effects of radiation poisoning are horrific, ranging from purple spots on the skin, hair loss, nausea, vomiting, bleeding from the mouth, gums, and throat, weakened immune systems, to massive internal hemorrhaging, not to mention the disfiguring radiation burns. The effects of the radiation poisoning continued to show up until about a month after the bombing. In fact the bomb also killed or permanently damaged fetuses in the womb.

4. **Did they need to drop a 2nd bomb?**
Even if Hiroshima was necessary, the U.S. did not give enough time for word to filter out of its devastation before bombing Nagasaki.
Why did they need 2 bombs?
Prosecution (2) Handout

Truman should be convicted of murder, because the atomic bombs were not necessary.

The questions are there as guides.

“My God, what have we done?” - Robert Lewis co-pilot of the Enola Gay

5. Were the atomic bombs too expensive to not use?

The bomb cost $2 billion to develop.

*The Manhattan Project* had been launched to counter the threat posed by Germany’s atomic program. The Japanese had not seriously pursued an atomic program.

By the time the atomic bomb was available, Japan was the only possible target.

6. Were civilians targets? Why?

The two cities were of limited military value. Civilians outnumbered troops in Hiroshima five or six to one.

Many wonder whether dropping the bomb was necessary, especially the one dropped on Nagasaki--the second bomb that was released three days after the first. The bombs could have been detonated over less populated areas and still have proven the same point.

Slaughtering thousands of innocent Japanese civilians when less destructive roads to peace are open is a violation of the values and principles for which Americans fought the war.

Dropping the bomb may have hurt US moral leadership.

*Atomic fallout* creates another hazard as well. The rain that follows any atomic detonation is laden with radioactive particles. Many survivors of the Hiroshima and Nagasaki blasts succumbed to radiation poisoning due to this occurrence. The atomic detonation also has the hidden lethal surprise of affecting the future generations of those who live through it. Leukemia is among the greatest of afflictions that are passed on to the offspring of survivors.
7. What about the rising power of the USSR (Russia)?

Japanese lives may have been sacrificed simply for power politics between the U.S. and the Soviet Union.

Harry Truman inherited a very expensive bomb project that had always aimed at producing a military weapon. He was told the bomb would be useful for impressing the Soviet Union.

U.S and soviet officials increasingly locked horns over the political future of Eastern Europe and East Asia. Roosevelt had welcomed the Soviet pledge to attack Japanese forces in China, the Truman administration came to fear that Soviet involvement in the war would lead to demands for territory and play into Stalin’s strategy to expand Soviet influence in East Asia.

8. Were there other reasons for dropping the bomb?

The decision was maybe partially pushed by the want to avenge Pearl Harbor and the extreme racism of the Japanese by Americans.

The atomic bomb was known to be able to wipe out an entire city at once and it was still used.

Other tactics, like air bombardment and naval blockade, had brought Japanese to their knees, the bomb was unnecessary.

9. What about the future?

Use of the bomb prompted other countries, such as the USSR, to rush to develop atomic weapons for their own protection.

Hurt the US to reform Japanese society after the war.
Defense (1) Handout

Truman should be acquitted, because the bomb was necessary.

*The questions are there as guides.*

1. **Would the Japanese surrender?**
The Japanese had demonstrated near-fanatical resistance, fighting to almost the last man on the Pacific islands, committing mass suicide and unleashing suicide kamikaze attacks.

Firebombing had killed 100,000 in Tokyo with no political effect.

The Potsdam Declaration of July 26, issued by the Allied powers and calling for "unconditional surrender," was not acceptable to the Japanese military, despite the declaration's threat that failure to surrender would be met by "complete destruction" of the military and the "utter devastation of the Japanese home land." Following ten days of Japanese silence, **the first atomic bomb was dropped on August 6, 1945, on the city of Hiroshima.**

They were still trying to get supplies. For example, that’s why the Japanese invaded the Chinese city of Manchuria.

2. **Why 2 bombs?**
With only two bombs ready (and a third on the way by late August 1945) it was too risky to "waste" one in a demonstration over an unpopulated area.

Truman said he authorized the use of the atomic bombs on populated areas because that was the only way to shorten the war and save American lives.

The two targeted cities would have been firebombed anyway.

3. **What about the rising power of the USSR (Russia)?**
The bomb's use impressed the Soviet Union and halted the war quickly enough that the USSR did not demand joint occupation of Japan.

Negotiations would have given the Soviet Union time to advance into northern China and spread their influence (Communism).

The bomb's power may have influenced how much the Soviets were trying to expand their influence in Europe.


**Defense(2) Handout**

*Truman should be acquitted, because the bomb was necessary.*

*The questions are there as guides.*

4. Was it right for more American’s to die?

The atomic bombing of Japan avoided the necessity of an invasion of Japan that would have resulted in one million American deaths. An invasion of Japan would have caused casualties on both sides that could easily have exceeded the toll at Hiroshima and Nagasaki.

For Japan, the United States and its allies, a horrific war was brought to an abrupt end.

American military casualties: By July 1945, U.S. forces in WWII had already suffered more than one million casualties, including those killed, missing in action, and wounded.

American prisoners of war in Japan were dying of starvation. Some had been tortured and others publicly executed. The Japanese government had announced that it would execute Allied pilots captured over Japan.

Negotiations would only have prolonged the war.

Best way to get Japan to surrender.

2. Did Truman know what the long term effects would be?

Scientists at the time were not aware of the dangers of radiation and did not fully understand its potential. The radiation emitted from the explosion permeates the landscape; the bomb not only destroys people and buildings on impact, but its effects continue to harm the environment for many years.

3. Did Japan deserve what was coming to them?

The American people expected their leaders live up to the pledge to achieve nothing less than unconditional surrender from Japan.

They attacked Pearl Harbor, as well as tortured and executed American prisoners.

The U.S. did not choose to fight WWII. Japan brought the war to American shores with Pearl Harbor.
Slides to be shown