

**A Study of Differentiated Instruction in Grade 8 US History**  
**Preliminary Study of Four Months**  
**Schroon Lake Central School**  
**December 2009**  
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**Abstract**

For four months, the eighth grade Social Studies classes have been organized around a method of differentiated instruction in which the source of information, the study process applied to that information, and the final “high order task” associated with the topic were differentiated. Though students were guided by the teacher in their choices, in general it was up to the student to choose. This format included a flexible pacing system so students could to some degree work at their own pace. The differentiated format resulted in modest improvement overall for this class, though there are some other benefits to the method aside from grades.

**Background**

This year’s 8<sup>th</sup> grade bears the distinction of having been the 7<sup>th</sup> grade with more failing final grades than all of the previous 4 years of 7<sup>th</sup> graders combined. In September 2009 as they began 8<sup>th</sup> grade, I noticed that some students were learning a lot faster than others. There was down time I struggled to fill for some students while others could not seem to catch up. Without much premeditation, I implemented on a *relatively* permanent basis a model for differentiated instruction that I normally only applied every month or so.

The differentiated model that has been in place for four months is fairly popular with students. They particularly appreciate the variety and choice of activities and the flexibility in pace. The model consists of multiple options for the source of content information, the method for processing that information for study, and the way to show what has been learned (though everyone takes the same quizzes as the topic progresses). There is a slight improvement in the class’ progress toward meeting the NYS Learning Standards in Social Studies that is evident in the grades (including reduced standard deviation in overall grades since last June) and that is likely attributable to the differentiated instruction model used in class. The assessments measure the standards and there are no “easy” activities that students gravitate towards for easy high marks. Though it feels like we’re moving faster, the majority of students are working at the average pace seen in the past four years. Some students are as much as a whole chapter ahead. A significant majority of students continue to choose the text as their primary source for the content despite the availability of equivalent audio-visual sources. Grades on quizzes match grades on the “high order tasks” very strongly.

There is some very significant psychology going on here that I did not anticipate but which I am very pleased to see. Students in this environment are taking responsibility for their learning. Evidence of this is seen in the active consideration they give to the study method they choose and in conferences with me about it. People naturally seek the easiest course – this is normal. But these students are also

seeking the course of action that gives them the results they want. I am seeing active reflection on learning, how it happens, and students are all making adjustments to meet their goals.

### **The Differentiated Instruction Model in Place**

My approach to differentiated instruction is based on the “system model” I taught some years ago when I taught a section of 8<sup>th</sup> grade Technology: Input, Process, and Output. The input is the source for the content knowledge. The process is the method to prepare the information for study and to study it. The output was a higher-level task that is associated with the topic. I use the current textbook as the organizing principle of the class (some sections are skipped if they are irrelevant). The author has divided each chapter into sections and provided quizzes that I use for measurements. To start a chapter, students complete a menu on which they select their input, process, and output.

Chapter 19 was addressed in a differentiated fashion, but using a different method than that examined here.

The following are the choices available for input:

- the textbook,
- video lessons I made,
- an audio version of the textbook,
- commercial videos (the school has a subscription to a source for documentaries and the like such as seen on the History Channel).

Students may choose one or more sources of information. It is possible to learn the material completely using the videos alone, the text alone, or the audio version of text (normally used in conjunction with the reading). The majority (77% on average) choose the textbook as their sole source of information. A large percentage chooses video as their sole source of information. I guide some students in their choice of input, but have only once found it necessary to dictate it so far. Conversations about what they choose and why are important and occur not only on a daily basis but as well in monthly conferences with each student about his or her notebook. Some students who rely on the text view the videos as a quick review before the quiz. It is curious to note that students who are particularly weak readers consistently prefer the text as their information source, though they do experiment with video sources.

The following are the choices available for study processing:

- Cornell format notes
- Outline
- Summary
- History Frame
- Author’s questions at the end of the chapter section
- Author’s guided reading
- “Folded Page” (A form of in-notebook flashcards)

Students were trained in these techniques throughout 7<sup>th</sup> grade. Cornell notes and outlining are by far the most popular choices, with around a third choosing these processing models each chapter. All processing takes place in a required notebook I provide. Students can change as they progress through a

topic and they must approve choices with me. I do not grade each chapter section process: sometime at the end of each chapter, I meet with each student one at a time and discuss the processing. A rubric is used to grade the entire chapter's work holistically. In the conference, we discuss the quiz grades and discuss the choices the student made to learn the material. As students complete the processing for a chapter section, they take the quiz on it. Quizzes are usually studied for in class. Though these quizzes represent relatively short-term memory, I recognize this as a necessary step toward long-term retention. I assess long-term memory in other tasks such as monthly examinations everyone takes. The average on all quizzes is almost identical with the average on all "high order task" grades.

The following are the choices for output (I term these "high order tasks"):

- Historic document analysis
- Book report
- Document Based Question

**Student Attitude Survey**

27 Respondents

66.6% [18] -- Very or Moderately Positive

25.9 % -- Neutral

7% [2] -- Moderately Negative

0 -- Very Negative

**What do you like about it?**

Independence and/or Flexible pace – 11 - 40.7 %

Choose what method to do – 10 – 37%

**What do you dislike?**

Quizzes – 8 – 29.6%

- Multiple-Choice Test
- Thematic Essay
- Persuasive Essay
- Work of Historical Fiction
- Debate
- Interview Test
- Fine Minute Presentation
- Video Essay
- Listening Task

The multiple-choice test was popular for a time, with on average 26% of students choosing this option over three months. Once students saw it was not an easy test and that their grades were fairly low, some abandoned it. The five-minute presentation is a popular choice for around a quarter of students on average. The average of the "high order tasks", including not only those chosen

for the differentiated topic but as well the monthly exam, essay, and listening task everyone does, account for 65% of the students' marks. In my opinion, these tasks must correlate fairly highly with the standards. They should not be "easy", unless the reason the student finds the task easy is because s/he has a talent in that domain.

There are two datum that support my assertion that these tasks are equally difficult and valid measures of student progress toward the standards: (1) no more than around a quarter of the class selects any one particular task (meaning no one in particular is seen by students as an "easy grade" – otherwise, they would most all choose it); (2) the average score on all high order tasks (79%) is curiously identical to the average score on all monthly exams, essays, and listening tasks that are NOT part of the differentiation and are required of all students (79%). The correlation between overall grades earned in my class and performance on the NYS Social Studies test is very high (0.84) – high enough to have predictive value. The average of all student overall grades for grade eight is at this writing 78.

## How Flexible Pacing Works

All students receive a copy of the calendar for the topic. This includes a list of what all the other students in the class are doing and dates for working days, exams and essays, presentation and debate days, and teacher presentations. The schedule is updated from time to time as needed in class “meetings” that begin each working period. This schedule includes an *approximate* quiz schedule. Students do not have to take quizzes on the same day and they study for them usually during the class period. Quizzes are not returned to students until everyone has taken them (once the topic is over). They get weekly progress reports that list all tasks completed to date and their scores. I monitor scores and conference with students who appear to rush into quizzes before they’re ready.

If the class has moved on to the next topic and a student has not completed the previous, that work is assigned outside class and the student works on the current topic. (In some cases, a 15 point per day late fee is assessed on the quizzes if the reason for being behind is not legitimate). I monitor where students are each working period as I circulate in the classroom with my clipboard. Students who appear to be working too slowly assign themselves homework (though at times with my prompting). Some students take the quiz as much as 2-3 days after the majority of the class. It is interesting to note that this appears to have no negative side effect and that it has the positive effect of giving those who need it a little more time.

Flexible pacing recognizes that our deadlines are relatively arbitrary. Though I need to cover a certain amount of material by June, there is more room to play with the calendar than I had previously thought.

The most common negative comment on the opinion survey given to students was regarding the quizzes. They don’t like them, naturally. The quizzes are important, however, in keeping students working on little bits at a time and for monitoring progress. I have experimented with being flexible on quizzes in three ways with the following results:

1) A very high performing student asked to take a multiple-choice test instead of the quiz series on one chapter. I agreed. Though his grades are normally above 98, he only scored 77 on it. Knowing the student, he will return to the quiz series without any intervention from me.

2) A student was very ill and absent for an extended period. I allowed the multiple-choice test in lieu of a quiz series for him and he scored a little worse than usual, but not failing.

*A “Two Sample T-test” was conducted by Mr. Cutting, my colleague in the Math department, to ascertain the probability that my results improved just as a result of random chance (and not from anything specific or modified). The result was that there is only a 39% probability that my results improved just as a result of random chance. Mr. Cutting explains that “in the scientific world it would have to be 10% or lower to be significant but in a classroom setting where you cannot account for many variables this is outstanding and should indicate the changes made are working favorably.”*

3) A student forgot to take a quiz and scored a 100 on the monthly exam. She requested that she be exempt from the quiz because she already scored perfectly on the exam that measured that material. I agreed.

There is an exam each month covering all material since the previous exam. The exam consists of short-response questions and students can usually do 5-6 of these in a period. The exam is gauged toward the minimum speed, meaning students who are ahead may not have the current topic they are working on appear until the next exam. Exam questions are distributed a week in advance and there is a review day before the exam. The review materials are also posted to the web. In December 2009, I was pleased with the results of an experiment I did in which I provided a video review online.

There is an essay each month. The topic is distributed a week in advance. As with the exam, the essay addresses the material since the last essay and is limited to material students going the minimum speed should have learned.

There is a monthly listening task. This task usually consists of a primary source that students hear twice and react to in either essay or an interview format. This task is currently under revision and I would expect to have more to relate about it in the follow up to this paper planned for early 2010.

### Pacing

It feels like we're moving faster. In reality, the class progress through the text varies considerably from year to year. We seem to be progressing at the average rate.

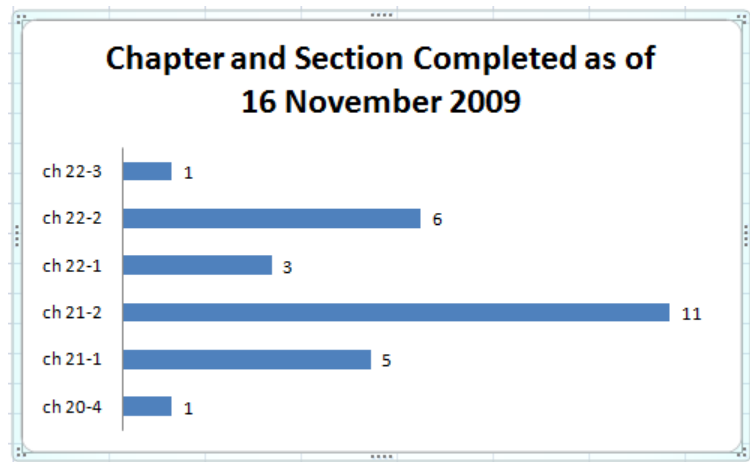
By 16 November...

2006 – Ch. 22-2

2007 – Ch. 20-3

2008 – Ch. 19-3

2009 – See chart – 41% on 21-2



### Overall Class Statistics

This class in Grade 7 (as of 21 June 2009)	This class Current (as of 01 Dec 2009)
Class Size = 30	Class Size = 29
Mean = 76.9	Mean = 78
Median = 80.5	Median = 76
StDev = 16.6	StDev = 13.1
High 98	High 100
Low 47	Low 49
<65 = 6	<65 = 4

*NOTE: Several in this class repeated 7<sup>th</sup> grade this year. These students are not included in this calculation.*

## **Student Choices**

### **Input**

- 77% on average choose the textbook as their exclusive source for the content.
- 47% on average choose the video as their exclusive source for the content.
- 36% on average choose to listen to the audio version of the textbook as they read.
- These numbers stay quite constant over the period September to November.

NB: These numbers do not add up to 100% because they represent average selections in each chapter and because sometimes students choose more than one input.

<p style="text-align: center;"><i>CLASS AVERAGES</i></p> <p style="text-align: center;"><i>Overall = 78</i></p> <p style="text-align: center;"><i>All Quizzes = 79.9</i></p> <p style="text-align: center;"><i>All High Order Tasks (excluding monthly exam, essay, and listening) = 79</i></p> <p style="text-align: center;"><i>Monthly Exam – Essay – Listening = 79</i></p>
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### **Processing Method**

- 32.6% on average choose the Cornell Note taking method
- 27.8% on average choose to outline the text
- 16.7% on average choose the author’s guided reading (Which on average is missing about 38% of the material that will be quizzed both for the 8<sup>th</sup> and 9<sup>th</sup> grade textbooks) Guided reading as an option has dropped significantly in popularity by chapter 22.
- 11.8% on average choose to answer the author’s questions found at the end of the chapter section (Which on average is missing around 10% of the material to be quizzed). Author’s questions as an option have dropped significantly in popularity by chapter 22.
- 11.1% on average choose the “folded page” method

### **Output**

- 26.1% on average choose the multiple-choice test. This choice was unpopular at first, then spiked on chapters 20-21, only to fall again in popularity by chapter 22 after so many did so poorly on the multiple-choice tests.
- 26.8% on average choose to do a 5 minute class presentation.
- 16.7% on average choose to have an interview. The interview test started out popular, dropped, and regained its popularity by chapter 22.
- 10.9% on average choose to write a thematic essay. This option has dropped sharply in popularity.
- 9.4% on average participate in a debate. This option has fallen sharply in popularity.

**Where to next?**

In January 2010, students will take a midterm exam that consists of the NYS test from June 2009. Performance on this test is a powerful indicator of progress toward meeting the standards and at that time I will correlate grades with the test to see if the marks students are earning in class are still measuring the standards strongly.

After the midterm exam, I plan to revisit these statistics in a follow up report and additionally:

- Examine how special education and gifted students are faring.
- Implement more small-group work with the teacher on working days.
- Include one additional teacher presentations per topic.
- Incorporate more primary source document analysis.
- Encourage formation of more cooperative learning groups.
- Report on 9<sup>th</sup> grade response to this system.

**Assessment rubrics, information processing methods, and details on the course grading system can be found at [www.JonesHistory.net](http://www.JonesHistory.net).**