Remodelling Lessons in Other Subjects

Introduction

This chapter contains remodelled lessons from two strikingly different subjects demonstrating, among other things, that critical teaching strategies can be applied in all teaching situations. As always, we present these remodels not as perfect, but as plausible examples of how teachers can begin to reshape their instruction to encourage and cultivate critical thinking. As you read through them, you might consider how you might have critiqued and remodelled the original lessons. There are always a wide variety of ways in which we can exercise our independent thinking and decision-making while teaching for critical thinking. As critical thinkers we think for ourselves, thus our teaching reflects our uniqueness as persons. Our instruction is a creative as well as critical activity. Indeed we critique to create. We find fault only to improve. Critical thinking does not threaten; it excites us to think of new possibilities, new ways of encouraging our students to think for themselves, to become more responsible persons, and to put their own brain power into operation so that they can take control of their own learning. It is encouraging to see teachers in a variety of subjects remodelling and redesigning their own instruction. Within the next couple of years, exemplary remodels should be available for every subject and grade level.
Objectives of the remodelled lesson
The students will:

- be introduced to algebra in a form that seems reasonable
- exercise independent thought by making up word problems
- be able to define algebra and explain its function

Standard Approach

Students are given examples of basic algebraic equations and solve them step by step with the teacher. Then pupils will solve problems 1–4 at the end of the chapter and when all problems are completed, answers will be checked in the back of the text.

Critique

This lesson makes no attempt to explain the function of algebra as a simple extension of basic arithmetic, but rather jumps right into the methodology of solving algebraic equations. Though most students will be able (with some practice) to “solve for n”, by not explaining the necessity of the algebraic equation with a step by step connection with the arithmetic style of problem solving, students will be left essentially in the dark. For a child, the jump to “4 - n = 2” is as confusing as quantum physics. I myself am a victim of this “leap of faith” method of teaching algebra and have only recently come to terms with my lack of understanding. By putting algebra in its proper context, it can be easily understood and mastered.

Strategies used to remodel
S-9 developing confidence in reason
S-11 comparing analogous situations: transferring insights to new contexts
S-19 generating or assessing solutions
S-17 questioning deeply: raising and pursuing root or significant questions

Remodelled Lesson Plan s-9

The teacher would begin the lesson with a simple arithmetic problem, such as $2 + 2 = ?$, writing it as $2 + 2 = n$. The teacher would then explain that ‘n’ means a number which we do not yet know, and that it comes in handy when we know some parts of a problem, but not others, for example, $2 + n = 4$. The students will want to know how it is we could get the answer before knowing
the first portion of the problem. Thus, the connection to word problems could be established with an example such as this: We need four people to play a certain game, but we only have 2 players. How many more people do we need?

2 + [how many] = 4?
2 + n = 4?

What do we need? What is the difference between all of what we need and what we already have?

As a follow up, the teacher could write "3 + n = 5" and ask the students to make up a story-problem using those numbers. S-11 After some student word problems are discussed, the teacher would explain that algebra is the branch of mathematics that helps us solve problems from the inside out, as in the previous example. The students would then be given a word problem and asked to solve it using any method they like. S-19 After assessing their solutions and discussing their methods, the teacher would offer an algebraic equation as an alternative, stressing the point that it may not be the only way to solve the problem, but probably the easiest and most efficient in most cases. S-17
“Father and Son”

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Objectives of the remodelled lesson
The students will:
- critically listen to a song, exploring the meaning expressed in its lyrics
- evaluate and explore parent versus child perspectives in a disagreement
- make inferences and predictions for the lyrics
- generate possible solutions to a given problem

Standard Approach
The students begin by listening to a record that goes with the music series. Melody and pattern are discussed, and notes are given for musical accompaniment. Students sing the song, look for patterns, and add the bells and rhythm instruments. Students then apply the melody to another set of lyrics, and note the same patterns.

Critique
The lesson plan, as it stands, allows for the listening to and the singing of a given piece of music. It also incorporates a bit of music theory in the form of patterns. Although this is a very appropriate way to teach music some of the time, I find it limiting because it does not allow time for the student to contemplate the meaning of the song. When I have written poetry or songs, I have always been driven by a need for expression. Music has been the means for much communication throughout history, and it would certainly be a travesty if the music education of the young did not include some critical listening and exploration of the meanings of some lyrics. I have found some music lyrics that are motivating for students to listen to, thus engaging them in critical listening. Although I feel that the listening to and singing of songs are important, I believe that the exploration of lyrics is vital to a well-rounded music education.

Strategies used to remodel
S-22 listening critically: the art of silent dialogue
S-32 making plausible inferences, predictions, or interpretations
S-19 generating or assessing solutions
S-17 questioning deeply: raising and pursuing root or significant questions
Remodelled Lesson Plan s-22

The class would receive a copy of the lyrics of the song "Father and Son" by Cat Stevens, with the speakers unidentified. The class would read the lyrics, and would discuss what is occurring. "There are two voices speaking in the song. What is the relation between the two, and how is this known?" When the class comes up with the parent/child idea, the students would be asked to identify the parent part of the song, and the child part of the song. When completed in their small groups, the class would listen to the tape of the song.

After listening to the song, the teacher could use questions like the following to guide discussion:

What is this song about? What is going on in this song? What are these people saying to each other? Why? Is the father listening to the son? Is the son listening to the father? What proof can you offer to support that? How old do you think the son is? Why? What is the perspective of the father? What reasons would he have to encourage the son to stay home? S-32 If you were the son, would you stay? What would be your reasoning for your decision? How happy is the father, really? Is the son a part of that happiness? What will happen to his happiness if the son goes away? The son talks about "them" in the last section of the song. Who is he talking about? If you really wanted to do something that your parents did not want you to do, would you do it?

After this discussion, the eight groups of children would receive the following questions in a worksheet format. Each group would be responsible for answering four of the questions. While they worked in their groups, the students would hear the song again. Each group must write their answers, in preparation for sharing with the whole group. Each group would present one of their answers to the entire class. At the completion of the sharing, each child would choose a question to pursue for further thought in the form of a paragraph that would be due the next day.

Is the problem in this song just that the son wants to go away for a while, or is there a bigger problem between the two? What?

If you were a counselor, and you were called in to help these two people solve their problems, how would you go about getting to the root of their problem? How long would it take you to help them work it out? S-19

Is it okay for the son to disobey his father’s wishes? How old should people be to question their parents’ authority?

What will happen at the end of the dialogue? Give reasons to support your predictions. What kind of a relationship will the son have with his father if he chooses to go? S-32

Is there communication going on between these two people? Justify your answer with details from the song and by explaining what 'communication' means.

What kind of situation can you compare this to in your life? How are the two situations different and similar?
Do you always listen when your parents give you advice? Do you learn more from an experience if you heed someone else's advice, or when you make your own decisions and mistakes?

Is it true that "you will still be here tomorrow, but your dreams may not"? Can you think of some dreams that you now have that you have either carried with you for a long time, and will probably remain with you in the future, or dreams that seemed very important to you in the past, but have now been replaced by new dreams?

**Editor's note:** Listen to the song first (for the whole experience as the artist intended it), then read the lyrics.

Relate the music and sound of the piece to its meaning. (What would this song be like as a heavy metal song?) (Compare many possibilities at length.) **S-17**