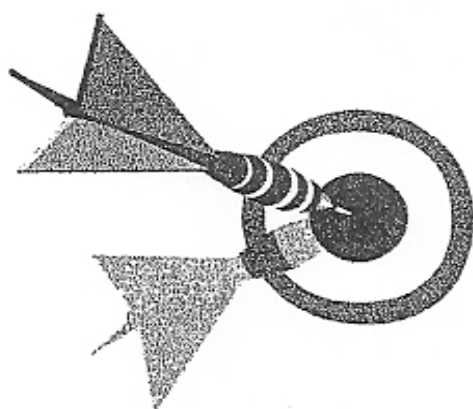


# Instructional Strategies That Work: A Tool Kit for Educators

---

## #4: ASSIGNING HOMEWORK and PRACTICE



Based on the research and materials of  
Dr. Robert Marzano and Dr. Debra Pickering  
of the Mid-continent Research for Education and Learning (McREL) Institute  
and other sources as noted

---

Compiled, edited, and expanded by the following Cherry Creek Schools'  
S.T.A.R. Mentors: Don Biery, Dina Davis, Roberta Ford, Connie Hirz,  
Nan Holt, Valerie James, and Carrie Weinberger.  
2002-2003

## TEACHING STRATEGY #4: HOMEWORK AND PRACTICE

Let's celebrate! The field of education is at a turning point; the "art" of teaching is rapidly becoming the "science" of teaching. This is a relatively new phenomenon as reported by Robert Marzano and Debra Pickering in the ASCD publication: *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement*.

After examining decades of research findings to distill the results, Marzano's team at McRel has defined nine broad K-12 teaching strategies that have positive effects on student learning:

- Identifying similarities and differences
- Summarizing and note taking
- Reinforcing effort and providing recognition
- Homework and practice
- Nonlinguistic representations
- Cooperative learning
- Setting objectives and providing feedback
- Generating and testing hypotheses
- Questions, cues, and advance organizers

As shown above, the instructional strategy of homework and practice produces the fourth highest gains in student achievement when implemented effectively.

Generalizations from the research about homework and practice include the following:

- ✓ The amount of homework assigned to students should differ depending on the grade level.
- ✓ Parent involvement in homework should be kept to a minimum. ✓ Homework has different purposes which should be identified and articulated.
- ✓ When homework is assigned, there should be feedback, but that feedback always does not have to come from the teacher.
- ✓ Mastering a skill requires focused practice.
- ✓ While practicing, students should be required to apply a newly learned skill slowly and precisely using few examples.

This packet offers essential information for teachers on basic issues involving homework and practice. Teachers, in turn, can incorporate this information into their homework policies and instructional approaches. This packet includes the following information and material:

- Basic questions and answers about homework
- The role practice plays in learning
- An appendix with reproducible materials (rubrics, a flyer for parents, an extra credit proposal, and other materials)
- References

## Meta-Analysis of Research On Instruction

---

	<b>ES</b>	<b>P Gain</b>	<b>N</b>	<b>SD</b>
<b>Identifying similarities and differences</b>	<b>1.61</b>	<b>45</b>	<b>31</b>	<b>.31</b>
<b>Summarizing, note taking</b>	<b>1.00</b>	<b>34</b>	<b>179</b>	<b>.50</b>
<b>Reinforcing effort and providing recognition</b>	<b>.80</b>	<b>29</b>	<b>21</b>	<b>.35</b>
<b>Assigning homework and practice</b>	<b>.77</b>	<b>28</b>	<b>134</b>	<b>.36</b>
<b>Generating non-linguistic representations</b>	<b>.75</b>	<b>27</b>	<b>246</b>	<b>.40</b>
<b>Using cooperative learning</b>	<b>.73</b>	<b>27</b>	<b>122</b>	<b>.40</b>
<b>Setting objectives and providing feedback</b>	<b>.61</b>	<b>23</b>	<b>408</b>	<b>.28</b>
<b>Generating and testing hypotheses</b>	<b>.61</b>	<b>25</b>	<b>63</b>	<b>.79</b>
<b>Providing cues, questions, and advanced Organizers</b>	<b>.59</b>	<b>22</b>	<b>1,251</b>	<b>.26</b>

**ES** = average effect size.

**P Gain** = percentile gain (the maximum percentile gains possible for students currently at the 50<sup>th</sup> percentile).

**N** = number of effect sizes.

**SD** = standard deviation (the measure of the variability of scores around the mean).

When conducting a meta-analysis, a researcher translates the results of a given study into a unit of measurement referred to as an effect size. An effect size expresses in standard deviations the difference between the increased or decreased achievement of the experimental group with that of the control group. One of the more useful aspects of an effect size is that it can be easily translated into percentile gains. Being able to translate effect sizes into percentile gains can lead to dramatic interpretations of the possible benefits of a given instructional strategy.

Robert Marzano  
from *What Works In Classroom Instruction*, McRel, 2000

## SHOULD SCHOOLS HAVE A HOMEWORK POLICY?

- There is an advantage to having a school-wide homework policy which specifies the particular types of homework which are meaningful and purposeful and specifies the "load" by age/grade level. (*Donley*)
- Establish and communicate a homework policy. (*Marzano*)

## WHAT IMPACT DOES HOMEWORK HAVE ON ACHIEVEMENT?

- From research done by Julian Betts - (6,000 students over a five year period): Students who did an extra 30 minutes of nightly math homework beginning in 7th grade would, by 11th grade, see their achievement level soar by the equivalent of two grades. (*Donley*)
- Impact on lower grades is arguable. (*Donley*)
- For elementary and junior high/middle school, long assignments that take more than an hour each night do not raise achievement. For high schoolers, the more homework they do (within reason) the more their achievement goes up. (*Black*)
- The overall effect of homework on students' achievement is noteworthy. In general, the older the student, the more influence homework has on his or her learning. (*Marzano*)
- Broader advantages of doing homework:
  - ✓ Honing organizational skills
  - ✓ Learning how to manage time
  - ✓ Developing the ability to learn autonomously (*Donley*)

## HOW MUCH HOMEWORK SHOULD BE ASSIGNED?

- First grade: 10 - 20 minutes nightly. After that, increase 10 minutes per night per grade level. (*Donley*)
- The amount of homework assigned should be different from elementary to middle school. Studies showed these ranges: (*Pickering*)

Primary grades	10-30 minutes
Upper elementary	30-90 minutes
Middle/Junior high	50-129 minutes
High school	60-90 minutes
- As a general rule, [students] should do homework for approximately 10 times their grade level in minutes (e.g. 1st grader/10 minutes; 5th grader/50 minutes). (*Marzano*)

## **WHAT TYPE(S) OF HOMEWORK SHOULD BE ASSIGNED?**

- Homework should be a blend of skill building and creative tasks closely tied to what's being taught in the classroom. (*Donley*)
- I The purpose of homework should be identified and articulated.
  - ✓ Practice
  - ✓ Preparation or elaboration (*Marzano*)
- There are four kinds of homework:
  - ✓ Preparation (prepares for the next day's lesson)
  - ✓ Practice Homework (provides review and reinforcement)
  - ✓ Extension Homework (expands concepts taught in class)
  - ✓ Creative (allows students to develop their own ideas through analysis, synthesis, and evaluation) (*Foyle*)
- Palardy's three main purposes of homework:
  - ✓ Practice new skills
  - ✓ Prepare to learn new information
  - ✓ Apply new learning by doing projects and other extensions. (*Black*)

## **WHAT IS THE ROLE OF PRACTICE IN HOMEWORK?**

Practice significantly enhances learning. (*Marzano*)

## **WHAT ARE SOME GUIDELINES FOR PRACTICE?**

- The most significant gains are made in the initial practice sessions. (*Marzano*)
- Students do not reach 80% competency until they have practiced 24 times. (*Marzano*)
- Research suggests that it is not appropriate to engage students in rushed practice of multiple examples, but, rather, to give them an opportunity to practice a few examples in depth at a slower pace. (*Marzano*)
- Students must adapt or "shape" skills as they are learning them. This includes modifying the way they use the skill, becoming aware of potential problem areas as well as variations in how the skills can be learned, and learning to use the skill in different situations. (*Marzano*)

## HOW CAN TEACHERS ENCOURAGE THE COMPLETION OF HOMEWORK?

- Make assignments reasonable, interesting, and clear. (*Black*)
- Do not underestimate the time it will take students to complete the task. (*Black*)
- Do not jot the homework down or cram it in at the last minute as students are leaving for their next class. (*Black*)
- Give assignments that are at the appropriate level of difficulty so that students will be challenged without being confused or frustrated. (*Black*)
- Provide students with the information and resources to do their homework successfully. (*Black*)
- Determine whether the benefit of the homework justifies the time and effort required of students. (*Black*)
- Provide time in class to write down the assignment. (*Eaglecrest*)
- Post assignments someplace in the room so students can see them. (*Eaglecrest*)
- Encourage the use of daily planners. (*Eaglecrest*)
- Provide time in class to start homework. (*Eaglecrest*)
- Make sure the first question is one every student can answer. (*Eaglecrest: Martha Riley*)
- Do the assignment yourself. Take your time, multiply it by 2 and add 10%. That's how long it will take most students to complete the work. (*Eaglecrest - Cindy Gay*)

**PLEASE SEE PRESCRIPTION PAGE IN APPENDIX.**

## HOW IMPORTANT ARE FEEDBACK AND GRADING?

The effects of homework vary depending on whether homework is graded or teachers have provided students with feedback. From least to greatest impact:

- Assigning homework but not grading or commenting on it
- Grading homework
- Providing written comments (*Marzano*)

## **WHAT INFORMATION SHOULD BE INCLUDED IN FEEDBACK?**

The best feedback appears to involve an explanation as to what is accurate and what is inaccurate [With students' work]. Simply telling students that their answer is right or wrong has a negative effect on achievement. In addition, asking students to keep working on a task until they succeed appears to enhance achievement. (*Marzano*)

## **WHEN IS THE BEST TIME TO GIVE FEEDBACK?**

Feedback given immediately is best. In general, the more delay that occurs in giving feedback, the less improvement there is in achievement. (*Marzano*)

## **WHAT TYPES OF FEEDBACK CAN BE USED?**

- Classroom discussion
- Formal and informal checks for understanding
- Rubrics (completed by either teacher or students)
- Student learning logs and/or reflections
- Formal assessments

## **HOW CAN TEACHERS FIND TIME TO PROVIDE FEEDBACK FOR FORMAL ASSESSMENTS?**

- Use Joanie Funderburk's (*Eaglecrest/Grandview*) homework quiz system. Students go over homework in class. Then the teacher chooses one or two items to give "back" to students as a quiz which can be graded and commented on.
- On repetitive work, discuss answers for part of the assignment. Then let students use that information to make any changes in the last items. Grade/give feedback only on those. (*Ford*)
- Teacher or students choose three items that will be graded on a given assignment. Grade/give feedback only on those. (*Ford*)
- Determine what are key questions on a particular assignment. Grade/give feedback only on those. (*Ford*)
- For short answers, grade two papers at a time, side-by-side. FAST! (*Ford*)
- Provide a separate answer sheet. This saves on the number of papers you have to collect and handle. (Keep in mind accommodations which must be made for some students who can not transfer answers successfully.) (*Ford*)
- Rubrics are effective tools for providing students with criteria that describe specific levels of performance for content that is informational in nature as well as for content that is process oriented. (*Marzano*)

**PLEASE SEE EXAMPLES OF TEACHER RUBRICS IN STRATEGY PACKET #6:  
"SETTING OBJECTIVES AND PROVIDING FEEDBACK".**

## **CAN STUDENTS BE PART OF THE FEEDBACK PROCESS?**

- There is no reason that students should not be part of the feedback process. Use peer feedback and self-assessment. *(Marzano)*
- Have students grade their own papers first using a rubric and give them an opportunity to make any changes before submitting the paper for peer feedback or for you to grade. *(Ford)*
- Peer editing can be valuable for both students and you. Be sure to explain what you expect from these editors and train them. *(Ford)*
- Ask students to chart their accuracy and speed in practice types of homework. *(Marzano)*

**PLEASE SEE EXAMPLES OF STUDENT RUBRICS IN STRATEGY PACKET #6: "SETTING OBJECTIVES AND PROVIDING FEEDBACK".**

## **SHOULD PARENTS HELP WITH HOMEWORK?**

- Parents should be informed of the homework assigned, but it does not seem advisable to have parents help with that homework. *(Pickering)*
- Many studies show minimal or negative effects when parents help with homework. *(Pickering)*
- High achievement was generally associated with less parental involvement in the homework process. *(Dr. Harris Cooper-University of Missouri, 1988 Study on How Homework Affects Student Achievement in Pickering)*

## **IS THERE ANYTHING PARENTS CAN DO TO SUPPORT THEIR CHILDREN'S HOMEWORK?**

- Parents and children should not see homework as an intrusion from outside which must be reacted to, but rather an opportunity where major tasks and opportunities of growing up can be worked through -- an occasion where one acquires a sense of responsibility. Parents can enrich homework assignments and fill in any gaps and teach their children what they think is important. *(Gardner)*
- Parents should limit phone/computer game/TV time. *(Eaglecrest)*
- Parents should provide a quiet place for students to do homework. *(Eaglecrest)*
- If possible, parents should provide a computer for exclusive use by the student. *(Eaglecrest)*
- Let parents know that when their child seems to be spending an inordinate amount of time on homework, they should contact you and discuss the situation. *(Pickering)*



- Remind parents to monitor their child's attendance and carefully consider any activities that take your child out of school.

Remember: Every single day absent = three missed days.

Day 1: Student is not in class to receive instruction.

Day 2: Student returns and does not understand what is being covered in class because of previous absence.

Day 3: Student is not prepared to complete homework for the following day. *(Ford)*

FOR OLDER STUDENTS:

- Parents should monitor the hours your child is working at a job. Time spent at a job Can not be spent doing homework. *(Eaglecrest)*
- Remind parents that car keys are a great motivator! If a child is not responsible enough to complete homework assigned, that same child is not responsible enough to be behind the wheel of a car. *(Ford)*

**PLEASE SEE PARENT FLYER IN THE APPENDIX.**

## WHAT ABOUT MAKE-UP WORK?

- Set clear deadlines in keeping with your school's policy. *(Eaglecrest)*
- Post assignments daily on a cumulative calendar. Have folders nearby where students can get materials. *(Eaglecrest)*
- Set up study buddies who take notes, get papers, etc. for each other. *(Eaglecrest)*
- Have student log-keepers who take notes on what was done in class on each day and what the homework was. *(Eaglecrest)*
- Use NCR paper and have designated note-takers for any day that there are absences. *(Eaglecrest)*
- When a student receives make-up work, negotiate the due date and write it in your grade book. Work turned in after that date is not acceptable. *(Ford)*

**PLEASE SEE MAKE-UP WORK LOG IN THE APPENDIX.**

## WHAT ABOUT LATE WORK?

In real life, missed deadlines carry consequences. I do not accept late work because I believe it sends the wrong life-message to students and because it is so difficult to recall my mind-set when I originally graded the assignment(s). If you choose to accept late work, there should be a clear cut-off date and significant penalties in grading. *(Ford)*

## **WHAT ABOUT EXTRA CREDIT WORK?**

- EXTRA CREDIT IS NOT SUBSTITUTE CREDIT! (*RUSS DOREN, CCHS*)
- Use a pre-approved Extra Credit form to ensure the quality of any extra credit work. (See appendix.) (*Ford*)

**PLEASE SEE EXTRA CREDIT PROPOSAL IN THE APPENDIX.**

## REFERENCES

- Black, Susan. "Doing Our Homework" The Education Digest: April 1997.
- Cuyler, Richard C. "'Making Homework Work" The Education Digest: May 1996.
- Donley, Michele, et. al. "Too Much Homework" (TIME, January 25, 1999).
- Eaglecrest High School teachers. "Successful Homework Pointers." April '94.
- Ford, Roberta. "Welcome to Success" December 2002.
- Foyle, Harvey C. "How to Assign Homework with Purpose". NAASP: Tips for Principals, November 1992.
- Gardner, Howard. "A Prescription for Peace." TIME: January 25, 1999, p. 662. S.T.A.R. Program. "Homework" 1997-1998.
- Marzano, R. J., Pickering, D. J., Pollack, J. E. (2001). Classroom Instruction That Works Research-Based Strategies for Increasing Student Achievement. Alexandria, VA: ASCD.
- Pickering, D. J. "Effective Instructional Practices" ED589, Adams State University, Fall 2000.

## EXTRA CREDIT PROPOSAL

**Name of Class:**

**Period:**

**Title of Project:**

**Summary of Project:**

**Form of Final Product (written report, video, etc.):**

**How Project will be publicized (report to class, displayed in Media Center, etc.):**

**Materials / Resources Needed:**

**Proposed Budget:**

**Completion Date:**

**How project will be evaluated:**

**Amount of Extra Credit requested:**

**Teacher's Signature of Approval:**

**Date:**

***RIGHT.... FROM THE BEGINNING  
ROBERTA HARMAN FORD***



## PRESCRIPTION FOR TREATING COMMON HOMEWORK DESIGN DISORDERS

- **IMPOSSIBLE-ITIS:** Beware of overpowering assignments that would take a genius to complete. Do some revamping! Perhaps you could divide your assignments into sections which have varying difficulty. All students would do Part One which is BASIC. Students then could choose additional parts (PROFICIENT and/or ADVANCED) for extra credit or you could assign additional required parts based on individual student's ability and/or ambition.
- **LONG-ITIS:** Be aware of how long each assignment takes. Do each assignment yourself or, better yet, have a colleague do it. Time how long it takes. Then **DOUBLE THAT TIME AND ADD 10%**. That's probably how long it will take most students to do the work. For an added professional touch, indicate the anticipated completion time on each sheet and provide a space where students can indicate how much time they spent on it.
- **FADE-ITIS:** Many students will not/can not struggle through print that is too small or unclear. Give all of your handouts an annual check-up and schedule them for reconstructive surgery as needed.
- **ANTI-ORGANIZATION VIRUS:** Three-hole punch all your handouts. You'll decrease the chances of students losing their papers. A lost assignment won't get done!
- **PLANNING-ITIS:** Don't set yourself up for frustration! Remember human nature! Assignments due the day back from a vacation stand a slim chance of getting done and/or getting done well. Rethink your homework timetables.
- **CRAM-ITIS:** Make sure you provide enough space for answers or ask students to answer on their own paper.
- **FLIP-ITIS:** Many students have a very difficult time flipping from questions on the front to resources or answers on the back. Organize your handouts so that possible answers or resources are with their questions. In some cases, this may mean using one-sided papers instead of sheets printed front and back.
- **READABILITY-ITIS:** Determine the reading level of material you give to your students. If the level is too high, make adjustments of some kind—translate the work together, make graphic organizers, etc., or "bag" the material and find an alternative.

### FREE SAMPLES:

**SUCCESS-VRIN**

Make the first question something everyone can answer.

**ASSIGNMENT-AID**

Have a specific time set aside to announce homework. Avoid the last minute crunch as the kids leave the room.

*From "Sadie" by Roberta Ford in Welcome To Success*