

Research Based Strategies
Homework and Practice

Questions for Teacher Reflection....

What is your philosophy on student homework?
How much homework should be assigned per night?
What involvement should parents have in student homework?
What is your guiding principle for student practice?

Homework and practice are instructional techniques that provide students opportunities to deepen their understanding and skills that have already been taught.

Homework extends the learning opportunities beyond the confines of the school day.

Four Generalization that can Guide Teachers in the Use of Homework.

The amount of homework assigned to students should be grade level appropriate.

Parent involvement should be kept to a minimum.

If homework is assigned, it should be commented on.

The purpose of homework should be identified and articulated.

How Much Homework should be Assigned?

The amount of homework assigned should be different from elementary to middle school to high school.

Research suggest the following guidelines for the time students spend a night doing homework:

Homework should equal approximately 10 times the students grade level (a 7th grader would spend 70 minutes and a 8th grader, 80 minutes).

FIGURE 5.2
Recommended Total Minutes Per Day for Homework

Grade Level	Pennsylvania Dept. of Education, 1973	Leone & Richard, 1989	Bond & Smith, 1966	Strang, 1975	Keith, 1982	Tymms & Fitz-Gibb: 1992
Primary	30		20-29	10		
Upper Elementary	45-90		30-40	40*		
Middle School / Jr. High School	90-120	50	50	60*		
High School	120-180			120	60*	60

* These numbers are estimates, based on the author's comments.

Parent Involvement in Homework Should be Kept to a Minimum

Research suggest that parent involvement in student homework may have minimal and/or a negative effect.

Parents should be careful not to solve content problems for students.

Parents and students need to understand:

- Purpose of homework
- Amount of homework that will be assigned
- Consequences for not completing the homework
- A description of the types of parental involvement that are acceptable

Parents should help facilitate homework

These are suggestions made by researchers and not written in stone at La Loma.

HOMEWORK POLICY ADDITIONS

(To Help Parents Facilitate Student Learning)

- Help set up a consistent organized place for homework to be done.
- Help your child establish either a consistent schedule for completing homework or help him create a schedule each Sunday night that reflects that particular week's activities.
- Encourage, motivate, and prompt your child, but do not sit with her and do the homework with her. The purpose of the homework is for your child to practice and use what she has learned. If your child is consistently not able to do the homework by herself, please contact the teacher.
- If your child is practicing a skill, ask him to tell you which steps are easy for him, which are difficult, or how he is going to improve. If your child is doing a project, ask him what knowledge he is applying in the project. If your child is consistently unable to talk about the knowledge he is practicing or using, please call the teacher.
- Although there might be exceptions, the minutes your child should spend on homework should equal approximately 10 times her grade level (a 2nd grader would spend 20 minutes, a 3rd grader, 30, and so on).
- When bedtime comes, please stop your child, even if he is not done.

If Homework is Assigned, It should be Commented on.

One set of studies found that the effects of homework vary greatly, depending on the feedback a teacher provides.

FIGURE 5.3
Research Results for Graded Homework

Use of Homework	No. of Effect Sizes (ESs)	Ave. ES
Homework with teachers' comments as feedback	2	.83
Graded homework	3	.78
Assigned homework but not graded or commented on	47	.28

FIGURE 4.2
Effort and Achievement Rubrics

Scale: 4 = excellent; 3 = good; 2 = needs improvement; 1 = unacceptable

A: Effort Rubric

- 4 I worked on the task until it was completed. I pushed myself to continue working on the task even when difficulties arose or a solution was not immediately evident. I viewed difficulties that arose as opportunities to strengthen my understanding.
- 3 I worked on the task until it was completed. I pushed myself to continue working on the task even when difficulties arose or a solution was not immediately evident.
- 2 I put some effort into the task, but I stopped working when difficulties arose.
- 1 I put very little effort into the task.

B: Achievement Rubric

- 4 I exceeded the objectives of the task or lesson.
- 3 I met the objectives of the task or lesson.
- 2 I met a few of the objectives of the task or lesson, but did not meet others.
- 1 I did not meet the objectives of the task or lesson.

Students generally found (when using the above rubrics) that the more effort they put into their work, the more they “met the objective” (or scored better—as shown below).

FIGURE 4.3
Effort and Achievement Chart

Student _____	Assignment	Effort Rubric	Achievement Rubric
Fri., Oct. 22	Homework—5-paragraph essay re: <i>Animal Farm</i>	4	4
Wed., Oct. 27	In-class essay re: allegory	4	3
Thurs., Oct. 28	Pop quiz	3	3

The Purpose of Homework should be Identified and Articulated.

Two common purposes of homework are preparation/elaboration and practice.

Homework can be used to prepare students for a new concept or have them elaborate on content that has been introduced.

Example:

A teacher might assign homework to have the students begin thinking about the concept of the cell prior to systematically studying it in class. Or a teacher might assign homework that ask students to elaborate what they have learned about cells.

It is important to clearly identify the purpose of a given homework assignment and to communicate that purpose.

Example:

Subject: _____
 Due Date: _____
 What I have to do tonight: _____
 Purpose of assignment: _____
 What I have to already know or be able to do in order to complete the assignment:

Sometimes students think that their teachers only care about if they simply complete the work.

When Should Homework be Used as Practice?

When homework is assigned for the purpose of practice, it should be structured around content with which students have a high degree of familiarity.

Example:

If students are asked to practice a new skill they have learned in class via homework, they should be fairly familiar with that skill.

Practicing a skill with which a students is unfamiliar is not only ineffective, but might also serve to habituate errors or misconceptions.

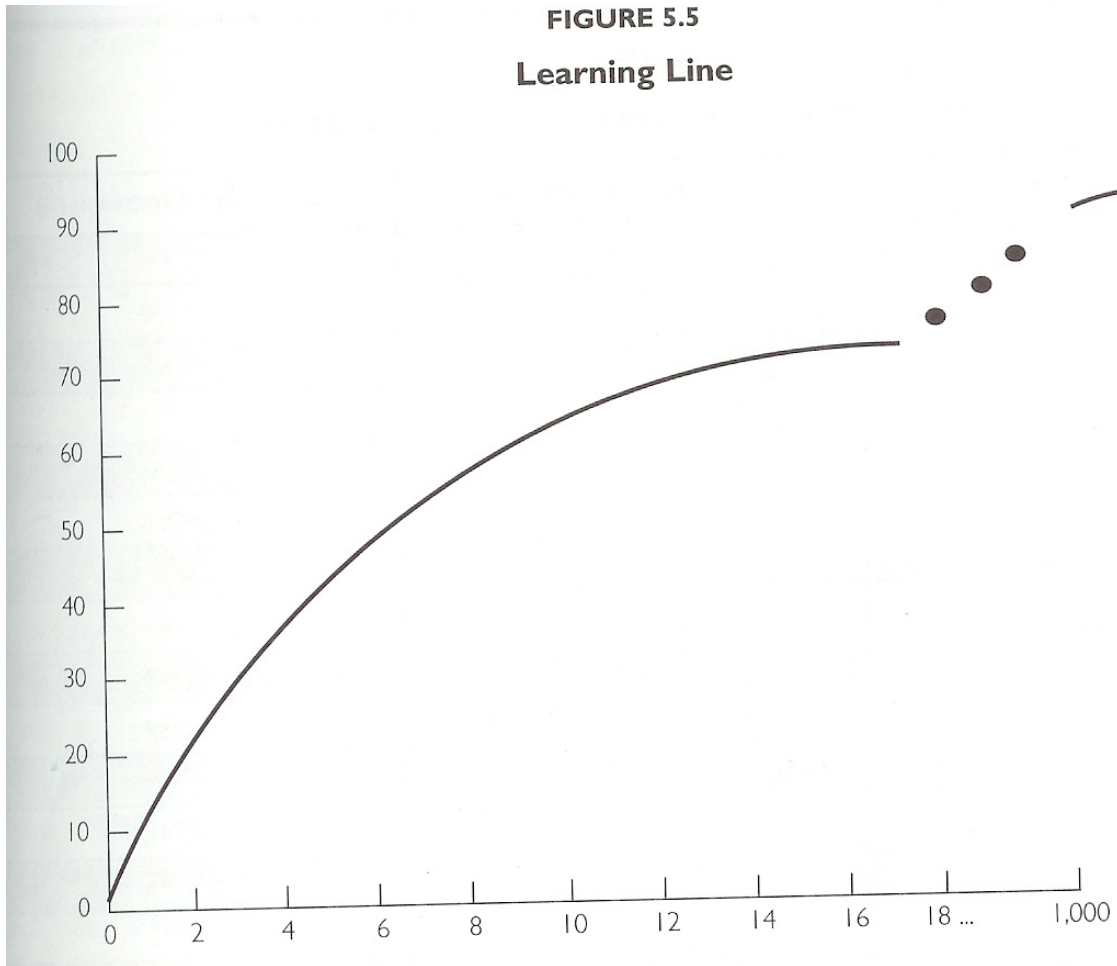
FIGURE 5.4
Research Results for Practice

Synthesis Study	Focus	No. of Effect Sizes (ESs)	Ave. ES	Percentile Gain
Ross, 1988	General effects of practice	9	1.29	40
Bloom, 1976 ^a	General effects of practice	7	.54	21
		34	.93	32
		10	1.43	42
Kumar, 1991	General effects of practice	5	1.58	44

^a Multiple effect sizes are listed for the Bloom study because of the manner in which effect sizes were reported. Readers should consult that study for more details.

Mastering a skill requires fair amount of focused practice.

FIGURE 5.5
Learning Line



How much practice does it take for a student to reach a fair level of competence in a skill?

How many practice sessions are needed for a student to reach 80 % competency?

What does the graph tell us about the increase in competency?

FIGURE 5.6
Increase in Learning Between Practice Sessions

Practice Session #	Increase in Learning (%)	Cumulative Increase (%)
1	22.918	22.918
2	11.741	34.659
3	7.659	42.318
4	5.593	47.911
5	4.349	52.26
6	3.534	55.798
7	2.960	58.754
8	2.535	61.289
9	2.205	63.494
10	1.945	65.439
11	1.740	67.179
12	1.562	68.741
13	1.426	70.167
14	1.305	71.472
15	1.198	72.670
16	1.108	73.778
17	1.034	74.812
18	.963	75.775
19	.897	76.672
20	.849	77.521
21	.802	78.323
22	.761	79.084
23	.721	79.805
24	.618	80.423

The first four practice sessions result in a 48 % level of complete mastery.

Learning new content does not happen quickly.

24 practice sessions are needed for a student to reach 80 % competency?

Shaping Phase

While practicing, students should adapt and shape what they have learned. During the shaping phase, students attend to their conceptual understanding of a skill. The shaping phase is not the time to press students to perform a skill with significant speed.

If students are rushed or over inundated during the shaping phase, their conceptual understanding may limit them to use procedures in a shallow and in effective ways.

While in the Shaping phase, less is better! A heavy practice schedule or multiple problems will be counterproductive.

Homework and practice are ways of extending the school day and providing students with opportunities to refine extend their knowledge. Teachers can use both of these practices as powerful instructional tools.

FIGURE 5.1
Research Results for Homework

Synthesis Study	Focus	No. of Effect Sizes (ESs)	Ave. ES	Percentile Gain
Paschal, Weinstein, & Walberg, 1984	General effects of homework	81	.36	14
Graue, Weinstein, & Walberg, 1983	General effects of homework	29	.49	19
Hattie, 1992	General effects of homework	110	.43	1
Ross, 1988	General effects of homework	53	.65	24

(Charts and Graphs are from Classroom Instruction that Works!, Marzano , et al.)