

Classroom Instruction that Works (meta-analysis of research on instruction)

Instruction	% Gain	<i>Generalizations from Research</i>
<p>① Identifying similarities and differences</p>	45%	<ul style="list-style-type: none"> • Presenting students with explicit guidance in identifying similarities and differences enhances students' understanding and ability to use knowledge. • Having students independently identify similarities and differences enhances students' understanding of and ability to use knowledge. • Representing similarities and differences in graphic and symbolic form enhances students' understanding of and ability to use knowledge. • Identification of similarities and differences can be accomplished in a variety of ways.
<p>② Summarizing, & note taking</p>	34%	<p>Summarizing</p> <ul style="list-style-type: none"> • To effectively summarize, students must delete, substitute, and keep some information. • To effectively delete, substitute, and keep information, students must analyze the information at a fairly deep level. • Being aware of the explicit structure of information is an aid to summarizing. <p>Note Taking</p> <ul style="list-style-type: none"> ▪ Verbatim note taking is, perhaps, the least effective technique. ▪ Notes should be considered a work in progress. ▪ Notes should be used as study guides for tests. ▪ The more notes that are taken, the better.
<p>③ Reinforcing effort and providing recognition</p>	29%	<p>Reinforcing Effort</p> <ul style="list-style-type: none"> • Not all students realize the importance of believing in effort. • Students can learn to change their beliefs to an emphasis on effort. <p>Providing Recognition</p> <ul style="list-style-type: none"> • Rewards do not necessarily have a negative effect on intrinsic motivation. • Reward is most effective when it is contingent on the attainment of some standard of performance. • Abstract symbolic rewards like verbal recognition are more effective than tangible rewards.
<p>④ Assigning homework and practice</p>	28%	<p>Homework</p> <ul style="list-style-type: none"> • The amount of homework assigned to students should be different from elementary to middle school. • Parent involvement in homework should be kept to a minimum. • The purpose of homework should be identified and articulated. • If homework is assigned, it should be commented on. <p>Practice</p> <ul style="list-style-type: none"> • Mastering a skill requires a fair amount of focused practice. • Students should adapt and shape what they have learned.

Adapted from Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA: Association for Supervision and Curriculum Development. www.ascd.org <<http://www.ascd.org/>>