***HOW TO BUILD A BETTER LESSON by Dr. Jane E. Pollock***

Chpt. 3, *Improving Student Learning One Teacher at a Time (ASCD, 2007), Chpts. 3,4,and 5* *Improving Student Learning One Principal at a Time (ASCD, 2009)*

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| **Components of the Lesson** | **Chapters from *Classroom Instruction that Works*** | **What we are trying to get the brain to do – the neuroscience of the brain** | **The Nine Effective Strategies the Teacher should use during this component of the lesson (from *Classroom Instruction that Works*)** | **Learning Strategies We need to teach our students***Each of these thinking skills requires a process for students to learn to organize and reorganize information in order to* ***retain it longer*** *and use the information to* ***construct new ideas.*** |
| **G:** GoalTeacher shares the goal of the lesson | Chapters 8 and 4 | We are trying to get the brain to focus on the goal; reduce impulsivity and stick to a task | Setting Objectives and Providing FeedbackReinforcing Effort and Providing Recognition | ***Identify Similarities and Differences*****Compare:** describe how things are the same and different**Create an Analogy:** substitute something familiar for something difficult**Classify:** group similar items into categories ***Use Analysis Techniques*****Analyze Perspectives:** consider different points of view**Create an Argument or Persuade:** to make a claim or convince others to change their viewpoints**Analyze for Logical Fallacy:**  articulate errors in thinking**Analyze as a System:**  consider change to make an improvement***Generate and Test Hypotheses*****Make a Decision:** select from seemingly equal choices**Solve a Problem:** negotiate obstacles to find a good solution**Investigate:** resolve issues about which there are contradictions(projective, historical, or definitional)**Invent:** develop original products or processes to meet specific needs |
| **A:** Access Prior KnowledgeTeacher accesses students’ prior knowledge | Chapters 10, 6, 2, and 7 | We are trying to get the brain to associate; make analogies and compare | Questions, cues and advance organizersNonlinguistic representationsIdentifying similarities and differencesCooperative Learning |
| **N:** New InformationTeacher shares new information; new information is practiced | Declarative and Procedural KnowledgeChapters 3, 5, and 11 | We are trying to get the brain to gather and organize information | Summarizing and note takingHomework and Practice |
| **A:** Application of New InformationApply what was learned | Application of Declarative and ProceduralKnowledgeChapters 2, 9, and 10 | We are trying to get the brain to categorize; analyze perspectives, construct arguments; extract themes, deduce, analyze for logical errors, systems analysis, investigate; make decision, solve problems, create a test and invent; follows complex directions | ***Identify Similarities and Differences******Cues, Questions and Advanced Organizers******Generate and Test Hypotheses***Homework and practice |
| **G:** Goal is revisitedTeacher reminds the student about what to “click and save” and provides feedback to the student | Chapters 8 and 4 | We are trying to get the brain to “put a tab on the folder”, make a connection to the goal and retain the information learned | Setting Objectives and Providing FeedbackReinforcing Effort and Providing RecognitionHomework and practice |

Steps in the Critical Thinking Skills

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| ***Identify Similarities and Differences*** | **Compare:** describe how things are the same and different1. Select items to compare2. Select characteristics on which you want to base your comparison of the items3. Explain how the items are similar and different with respect to the characteristics4. Summarize your findings and draw useful conclusions | **Create an Analogy:** substitute something familiar for something difficult1. Identify a situation or basic information2. State the basic information in general terms3. Identify new difficult information in terms of the familiar situation (general terms)4. Use the similarities and differences as a platform for new understandings5. Summarize new explanation (s) about the difficult information | **Classify:** group similar items into categories1. Identify items to classify2. Select an item and identify other items like it to combine into a group based on attributes3. Choose a rule that describes membership in the category4. Repeat with another item until all items are classified5. If necessary, combine or split groups into smaller categories and state the rule for membership6. Reclassify to consider different patterns and summarize findings |  |  |
| ***Use Analysis Techniques*** | **Analyze Perspectives:** consider different points of view1. Identify an issue2. State a perspective, the logic, and evidence that support it3. State a different perspective with the logic and evidence that support it4. Repeat 5. Summarize the similarities and differences among viewpoints | **Create an Argument or Persuade:** to make a claim or convince others to change their viewpoints1. Make a claim2. State evidence about the claim3. Elaborate on the evidence by providing detail, both opinion and factual information(4. To persuade, use techniques to sway the audience to accept the claim) | **Analyze for Logical Fallacy:**  articulate errors in thinking1. Describe how information being presented is intended to change your behavior or beliefs.2. Identify claims or tactics that are unusual3. Ask for clarification or more accurate information4. Summarize the errors and resolution | **Analyze as a System:**  consider change to make an improvement1. Explain a situation as a system – the parts and the functions of each part2. Describe how the parts affect each other3. Identify one part, change it, and explain how it affects the rest of the system4. If possible, make the change, and show the results to draw conclusions |  |
| ***Generate and Test Hypotheses*** | **Make a Decision:** select from seemingly equal choices1. Identify a situation that requires a choice2. Identify different choices or alternatives3. Hypothesize the best criteria important to the situation4. Assign each criterion a value score5. Score the extent to which each alternative possesses each criterion6. Multiply the criterion scores by the alternative scores7. Identify the alternative with the highest score8. Summarize the result or justify why not to elect that choice | **Solve a Problem:** negotiate obstacles to find a good solution1. Identify a goal2. Describe a barrier that prevents you from achieving the goal, causing the problem3. Hypothesize or generate solutions for overcoming the barrier4. If possible, test a likely solution (s)5. If necessary, test another hypothesis, and summarize how to resolve the situation | **Investigate:** resolve issues about which there are contradictions(projective, historical, or definitional)1. Describe a hypothetical, past event or concept to be explained 2. Explain what is already known or agreed upon3. Explain the confusion or contradiction4. Hypothesize a plausible explanation about the confusion or contradiction5. Summarize findings | **Invent:** develop original products or processes to meet specific needs1. Describe a situation that needs improvement2. State the purpose or goal from different perspectives3. Hypothesize specific needs and restrictions for the invention4. Develop a model, sketch, or outline5. Seek feedback on the idea or product6. Improve the idea or product by editing or revising7. Publish or produce the idea or invention | **Experiment or Survey:** test explanations for things we observe1. Describe an event or situation2. Explain what you observed3. Based on your explanations, make a prediction or hypothesis4. Create an experiment or survey to test your prediction5. Explain the results of your experiment or survey6. Summarize, and if necessary, revise the explanation |