

# Selecting and Analyzing Lesson Activities Matrix

*This job aid is a tool from the [Instruction Analysis Main Map](#) and references other job aids/informational charts that can also be found on the [Instructional Analysis Main Map](#)*

## WHERE/WHEN

The Selecting and Analyzing Lesson Activities Matrix is designed for instructional designers and/or instructors tasked to design lesson plans. In order to effectively use the matrix, these professionals should have a basic understanding of the components of a lesson and the learning theories referenced below. If not, it would be recommended that this is initially used under the guidance of a professional who does have a strong foundation in lesson design and adult learning theory. Developing the instructional strategy should be carried out after the objectives have been written/ reviewed and the assessment strategy is developed. *(Note this process usually involves cyclical revisions, and the congruence between Objectives, Assessment and Learning Activities are paramount)* That information is used to develop the instructional strategy based on learning theory that will meet the objectives (Dick, Carey & Carey, 2001). The matrix facilitates the lesson design process resulting in a cohesive document that incorporates the strengths of several learning theories. These theories include:

- Bloom's Cognitive Taxonomy, which ensures there is **congruence between objectives**, activities and assessments
- Gagné's Events of Instruction to help **sequence activities**
- Keller's ARCS principals to ensure that lessons are **motivating**.

Additional information on the learning theories is available in the [Lesson Plan Information](#) section of the [Instructional Analysis Main Map](#). This tool can be used either when developing a new lesson or to analyze and repair an existing lesson plan. [Note that when used as a standalone tool, it is suggested to refer to the **Associated Theory Charts**, which includes detailed material on Gagne's Events of Instruction, Keller's ARCS model, and Bloom's Taxonomy. (The **Associated theory Charts** are available to download from the [Instructional Analysis Main Map](#).)

## WHAT/HOW

*Refer to the [Selecting and Analyzing Lesson Activities \(SALA\) Matrix](#) below.*

- 1. List the objectives for the lesson in the numbered spaces at the top of the SALA Matrix. Refer to each objective by the number as you complete the matrix.**

If you have not already written objectives, you may wish to use the Writing Objectives Job Aid found in the Instructional Analysis Main Map. Identify which level of Bloom's Cognitive Taxonomy is appropriate to each objective and list it by the objective. (Additional information on Bloom's Cognitive Taxonomy is available in the [Lesson Plan Information](#) section of the [Instructional Analysis Main Map](#).)

- 2. In the SALA Matrix fill in identify the selected activities for each Event of Instruction.**

Gagné developed nine Events of Instruction in his learning theory:

- Gaining Attention

- Informing Learners of the Objective
- Stimulating Recall of Prior Learning
- Presenting the Content
- Providing Learner Guidance
- Eliciting Performance
- Providing Feedback
- Assessing Performance
- Enhancing Retention and Transfer

These events of learning are based on research about information processing. They enhance the internal learning process and external output of the learner. Selecting activities that meet the criteria of the events and follow the sequence has been shown to prepare the learner to process new content through the completeness of each act of learning (Gagné & Medsker, 1996). (Additional information on Gagné's Events of Instruction is available in the [Lesson Plan Information](#) section of the [Instructional Analysis Main Map](#).)

**3. Write down the number that corresponds to the objective(s) that is being addressed by the activity.**

Two other options to this are writing the full objective but in smaller text so it is visible alongside the activity or hyperlinking to the objective.

**4. Consider each activity and which level of thinking is involved. In the matrix, write down the corresponding level of Bloom's Cognitive Taxonomy.**

When developing courseware, it is important to incorporate all levels of thinking and the activities and products that activate each level. Bloom's Cognitive Taxonomy suggests six levels of cognition: Knowledge, comprehension, application, analysis, synthesis, and evaluation. Moving from simple to concrete to abstract thinking helps learners to master a topic. It is also crucial that you align the level of thinking of the stated objective with the activities in the lesson and the assessment tool to ensure that training has the desired impact (Krathwohl, 2002). (Additional information on Bloom's Cognitive Taxonomy is available in the [Lesson Plan Information](#) section of the [Instructional Analysis Main Map](#).)

**5. Consider what motivational strategies are being used when implementing each activity and in the matrix, write down what areas of Keller's ARCS strategies apply.**

Keller's ARCS model helps instructional designers create instruction that students find stimulating and valuable, as well as build student's feelings of success. The four areas include:

- Attention, which is designed to influence the student's span of attention
- Relevance, which builds connections between the learning event and the student's goals and desires
- Confidence, which builds success experiences for the student in order to promote a positive attitude
- Satisfaction, which creates continued motivation to learn

(Keller, 1987)

These strategies are used throughout the lesson and should not be confused with learning events. For instance, it is important to use motivational strategies to keep the attention of the learner at all times, not only at the beginning of the lesson, in all components of the lesson. This should not be confused with Gagné's first instructional event (Gain Attention), which is done at the beginning of a lesson to

draw the learner into the content of the lesson. (Additional information on Keller's ARCS strategies is available in the [Lesson Plan Information](#) section of the [Instructional Analysis Main Map](#).)

**6. Review and ask yourself several questions:**

- 1. Do all of my activities connect with at least one of the objectives? Are there any unnecessary activities that should be removed or replaced in the lesson? Is the order of activities logical and does it aid in retention?**
- 2. Which levels of Bloom's Taxonomy are being addressed? Do the activities build up to and use the level of Bloom's Taxonomy represented in the objective and the assessment?**
- 3. Does each activity build the learner's motivation?**

**7. Consider how you answered the previous questions and make adjustments to ensure that:**

- All activities are necessary and connect to the objectives.**
- Activities match the cognitive level reflected by the objective and assessment.**
- Activities are planned to motivate the learner.**

## Selecting and Analyzing Lesson Activities Matrix

**List Objectives Connected for this lesson:**

Example Objective: 1. Managers will use sensitivity in communicating with subordinates about job performance and achieve a minimum 3.5 (on a 5 point rating scale) from their direct reports. (Synthesis level objective on Bloom’s Cognitive Taxonomy)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Instruction Event (Gagné’s Events of Instruction)	Lesson Activity(s)  * You may list more than one activity for each event of instruction	Objective	Cognitive Level (Bloom’s Cognitive Taxonomy)	Motivational Strategies (Keller – ARCS)
<b>EXAMPLE</b>				
Gain Attention	Share a story about an experience where the instructor had to deal with a employee that was not meeting job expectations that demonstrates sensitivity and invite one or two others to also share a story of similar nature.	1	Comprehension	Attention – Specific Example and Active participation Relevance – Connecting real life situation to skills being taught
Gain Attention				
Inform Learner of Objectives				

Recall Prior Knowledge				
Present Material				
Provide Guided Learning				
Elicit Performance				
Provide Feedback				
Assess Performance				
Enhance Retention and Transfer				

## REFERENCES

- Dick, W., Carey, L., & Carey, J. (2001). *The systematic design of instruction* (5th ed.). New York: Addison-Wesley Educational Publishers Inc.
- Gagné, R. M. & Medsker, K. L. (1996). *The conditions of learning: Training applications*. Belmont, CA: Wadsworth Group/Thompson Learning.
- Keller, J. (1987). Strategies for stimulating the motivation to learn. *Performance and Instruction*, 26(8), 1-7.
- Krathwohl, D. R. (2001). A revision of Bloom's taxonomy: An overview. *Theory Into Practice*, 41(4), 212-218.

# Bloom's Cognitive Taxonomy

Categories	Examples	Keywords
<b>Knowledge:</b> Recall data or information.	Recite a policy. Quote prices from memory to a customer. Knows the safety rules.	defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states.
<b>Comprehension:</b> Understand the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.	Rewrites the principles of test writing. Explain in one's own words the steps for performing a complex task. Translates an equation into a computer spreadsheet.	comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives Examples, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates.
<b>Application:</b> Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place.	Use a manual to calculate an employee's vacation time. Apply laws of statistics to evaluate the reliability of a written test.	applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses.
<b>Analysis:</b> Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences.	Troubleshoot a piece of equipment by using logical deduction. Recognize logical fallacies in reasoning. Gathers information from a department and selects the required tasks for training.	analyzes, breaks down, compares, contrasts, diagrams, deconstructs, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates.
<b>Synthesis:</b> Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure.	Write a company operations or process manual. Design a machine to perform a specific task. Integrates training from several sources to solve a problem. Revises and process to improve the outcome.	categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes.
<b>Evaluation:</b> Make judgments about the value of ideas or materials.	Select the most effective solution. Hire the most qualified candidate. Explain and justify a new budget.	appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports.

Taken from: <http://www.nwlink.com/~Donclark/hrd/bloom.html>

# Gagné's Events of Instruction

Event	Strategies
<b>Gain Attention</b> Pique the learners' interest in the subject.	<ul style="list-style-type: none"> <li>* Begin the lesson with a question or conflict.</li> <li>* Begin the lesson with a demonstration or experiment.</li> <li>* Use humor, vary media, get students involved</li> </ul>
<b>Inform Learner of Objective</b> Let the learners know what they will be learning.	<ul style="list-style-type: none"> <li>* Review course objectives that are relevant to the lesson.</li> <li>* Explain how meeting the objectives is useful to the student in terms of real-world applications</li> </ul>
<b>Recall Prior Knowledge</b> Get the learners to think about what they already know.	<ul style="list-style-type: none"> <li>* Pre-test prior knowledge and prerequisite skills.</li> <li>* Ask students to share their current perceptions of the topic.</li> <li>* Create a concept map of prior knowledge</li> </ul>
<b>Present Material</b> Teach the topic.	<ul style="list-style-type: none"> <li>* Lecture in small chunks whenever possible.</li> <li>* Use a variety of media and methods in presenting information.</li> <li>* Show examples and non-examples to clarify concepts</li> </ul>
<b>Provide Guided Learning</b> Help the learners follow along as the topic is presented.	<ul style="list-style-type: none"> <li>* Highlight important ideas, concepts, or rules.</li> <li>* Use repetition.</li> <li>* Provide students with learning strategies such as mnemonic memory aids</li> </ul>
<b>Elicit Performance</b> Ask learners to do what they have been taught.	<ul style="list-style-type: none"> <li>* Allow for several practice sessions over a period of time.</li> <li>* Provide role-play, case studies, or simulations</li> </ul>
<b>Provide Feedback</b> Inform learners of their performance.	<ul style="list-style-type: none"> <li>* Feedback should be immediate, specific, and corrective.</li> <li>* Allow additional practice opportunities after feedback is given.</li> </ul>
<b>Assess Performance</b> Evaluate learners on their knowledge of the topic.	<ul style="list-style-type: none"> <li>* Provide independent activities that test student knowledge/skill acquisition</li> </ul>
<b>Enhance Retention and Transfer</b> Aid learners in remembering and applying the new skill.	<ul style="list-style-type: none"> <li>* Apply learning in real-world scenarios.</li> <li>* Highlight connections with other subject areas or events.</li> </ul>

Modified from:

<http://coe.sdsu.edu/eet/articles/gagnesevents/>

<http://li.fccj.edu/9events.htm>

# Keller's ARCS

Categories and Subcategories	Methods
<p><b>Attention</b></p> <ol style="list-style-type: none"> <li>1. Perceptual arousal</li> <li>2. Inquiry arousal</li> <li>3. Variability</li> </ol>	<ul style="list-style-type: none"> <li>• Active participation -Adopt strategies such as games, roleplay or other hands-on methods to get learners involved with the material or subject matter.</li> <li>• Variability – To better reinforce materials and account for individual differences in learning styles, use a variety of methods in presenting material (e.g. use of videos, short lectures, mini-discussion groups).</li> <li>• Humor -Maintain interest by use a small amount of humor (but not too much to be distracting)</li> <li>• Incongruity and Conflict – A devil’s advocate approach in which statements are posed that go against a learner’s past experiences.</li> <li>• Specific examples – Use a visual stimuli, story, or biography.</li> <li>• Inquiry – Pose questions or problems for the learners to solve, e.g. brainstorming activities.</li> </ul>
<p><b>Relevance</b></p> <ol style="list-style-type: none"> <li>1. Goal Orientation</li> <li>2. Motive Matching</li> <li>3. Familiarity</li> </ol>	<ul style="list-style-type: none"> <li>• Experience – Tell the learners how the new learning will use their existing skills. We best learn by building upon our preset knowledge or skills.</li> <li>• Present Worth – What will the subject matter do for me today?</li> <li>• Future Usefulness – What will the subject matter do for me tomorrow?</li> <li>• Needs Matching – Take advantage of the dynamics of achievement, risk taking, power, and affiliation.</li> <li>• Modeling – First of all, “be what you want them to do!” Other strategies include guest speakers, videos, and having the learners who finish their work first to serve as tutors.</li> <li>• Choice – Allow the learners to use different methods to pursue their work or allowing s choice in how they organize it.</li> </ul>
<p><b>Confidence</b></p> <ol style="list-style-type: none"> <li>1. Learning Requirements</li> <li>2. Success Opportunities</li> </ol>	<ul style="list-style-type: none"> <li>• Help students understand their likelihood for success. If they feel they cannot meet the objectives or that the cost (time or effort) is too high, their motivation will decrease.</li> <li>• Provide objectives and prerequisites – Help students estimate the probability of success by presenting performance requirements and evaluation criteria. Ensure the learners are aware of performance requirements and evaluative criteria.</li> <li>• Allow for success that is meaningful.</li> <li>• Grow the Learners – Allow for small steps of growth during</li> </ul>

<p>3. Personal Control</p>	<p>the learning process.</p> <ul style="list-style-type: none"> <li>• Feedback – Provide feedback and support internal attributions for success.</li> <li>• Learner Control – Learners should feel some degree of control over their learning and assessment. They should believe that their success is a direct result of the amount of effort they have put forth.</li> </ul>
<p><b>Satisfaction</b></p> <p>1. Natural Consequences</p> <p>2. Positive Consequences</p> <p>3. Equity</p>	<ul style="list-style-type: none"> <li>• Learning must be rewarding or satisfying in some way, whether it is from a sense of achievement, praise from a higher-up, or mere entertainment.</li> <li>• Make the learner feel as though the skill is useful or beneficial by providing opportunities to use newly acquired knowledge in a real setting.</li> <li>• Provide feedback and reinforcement. When learners appreciate the results, they will be motivated to learn. Satisfaction is based upon motivation, which can be intrinsic or extrinsic.</li> <li>• Do not patronize the learner by over-rewarding easy tasks.</li> </ul>

Taken from: <http://www.learning-theories.com/kellers-arcs-model-of-motivational-design.html>