

**Annotated Examples of
Rubrics for Thinking Skills, Approaches to Learning,
Creativity, Collaboration, and Other
“21st Century Skills”**

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For Use in Professional Development

January, 2017

Annotated Examples of Rubrics for Thinking Skills, Approaches to Learning, Creativity, Collaboration, and Other “21st Century Skills”

Purpose

The purpose of this collection is to spark the thinking of teachers and other educators as they construct rubrics for thinking Skills, approaches to learning, creativity, collaboration, and other “21st century skills” for use in their own schools.

How to Construct Rubrics

- Begin by naming and defining the quality or qualities you want to measure.
- Decide whether the rubric will be used formatively or formatively and summatively.
- Decide whether you will use a holistic or analytic rubric (one criterion or several) to measure the quality.
- Decide how many levels of performance you want to define.
- Identify indicators of each criterion, and use them to describe what you and your students will look for as evidence of the level of accomplishment on that criterion. Make the rubric language student-friendly; when possible, write in the students’ voice. Write performance level descriptions for each level of performance on the criterion. Notice that none of the examples in this collection used first person, thus implying that the student was the primary evaluator. I wish I had been able to find some good examples of more student-facing language, but I was not.
- Focus on what is observed—the presence of behaviors or characteristics—rather than what is not observed (describe “what they do, not what they don’t do” at each level).
- Try out the rubric and revise as necessary.

Kinds of Skills

- There is no universally accepted or standard list of learning and thinking skills. Different authors or approaches to education have different models. Some, for example, group critical thinking and problem-solving; others consider them separately. Different definitions for abstractions like “creativity” or “critical thinking” will lead to different criteria and performance level descriptions.
- Therefore, I encourage you to look at the criteria and performance level descriptions in the rubrics in this collection as a source of ideas. The rubric construction process (see above) should start with you naming and defining what you want your rubric to measure, in the context in which you teach.

Annotated List of Examples

Rubric for Creativity

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- **Source:** Susan M. Brookhart, *How to Create and Use Rubrics for Formative Assessment and Grading*, p. 54. © 2013, ASCD.
- **Annotation:** I created this rubric for the book on rubrics to illustrate how defining what you mean by a quality (in this case, “creativity”) and selecting indicators, evidence you would look for, is the key to creating a rubric. For this rubric, creativity was defined by four things that creative students do. Creative students do these things: recognize the importance of a deep knowledge base and continually work to learn new things; are open to new ideas and actively seek them out; find source material in a wide variety of people, media, and events; organize and reorganize ideas into different categories or combinations and then evaluate whether the results are interesting, new, or helpful; and use trial and error if they are not sure how to proceed, viewing mistakes as opportunity to learn. With this definition, I identified four criteria you would look for in student work to assess the degree to which the work was creative, and those became the four criteria in the rubric.

Creative Thinking, Problem Solving, and Teamwork Rubric

2

- **Source:** Rochester Institute of Technology.
[https://www.rit.edu/affiliate/weimpact/documents/FinalWEIMPACT_Synergistic%20Rubric%201%201%20\(2\).pdf](https://www.rit.edu/affiliate/weimpact/documents/FinalWEIMPACT_Synergistic%20Rubric%201%201%20(2).pdf)
- **Annotation:** I selected this rubric because it shows the definitions of the constructs to be measured (creative thinking, problem solving, and teamwork). While created for a college program, this rubric is very accessible. Most middle and high school students could understand its language and concepts. The performance level descriptions also show an example of how the lower achievement levels are described by what you would observe the students do, not what they would not do.

Collaborative Work Skills Rubric

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- **Source:** International Reading Association and National Council of Teachers of English, © 2005.
- **Annotation:** This example is interesting because of the list of criteria that, collectively, define and describe what the rubric takes as “collaborative work skills.” The performance level descriptions are built around a frequency scale (always, usually, sometimes, rarely) and add additional descriptions when possible. Frequency scale language is best suited to observation of behaviors (as opposed to cognitive understandings), as is the case in this rubric.

Assessment of Metacognition with Student Likert Scale Questionnaire 7

- **Source:** Anthony J. Nitko & Susan M. Brookhart, *Educational Assessment of Students* (6th ed.), pp. 459-461. © 2011, Pearson.
- **Annotation:** I looked for examples of metacognition rubrics, and to be honest the ones I found were very heavy-handed and didactic. I couldn't see students using them well without feeling lectured-to. I look forward to getting some good examples from the teachers who are using this resource for professional development. Meanwhile, I present this student questionnaire, which uses a Likert scale format (a type of rating scale) to show some of the indicators people look for when they look at metacognition. This example has a definition and some suggestions on how to use these or other indicators in a student questionnaire.

Learning Skills/Behavior Rubric 10

- **Source:** West Virginia Department of Education © 2014, <https://wvde.state.wv.us/osp/GiftedRubric-Benchmarking-3-5-2014.pdf>
- **Annotation:** While intended for gifted students in third through fifth grade, this rubric could be adapted to many grade levels and would not need to be confined to use with gifted students. I have included it in this selection of examples because of the large number of specific indicators of learning skills. One of the purposes of this collection of examples is to provide ideas for expressing this kind of skill in words.

Learning Skills and Work Habits in Grades 1 to 12 15

- **Source:** Ontario Ministry of Education, *Growing Success: Assessment Evaluation, and Reporting in Ontario Schools*, © 2010. <http://www.edu.gov.on.ca/eng/policyfunding/growsuccess.pdf>
- **Annotation:** This is not a rubric, but rather a list of criteria and indicators. It is a good example of how to organize your thinking about a skill or set of skills before you go ahead and write all the performance level descriptions.

Achievement Charts from *Growing Success* 16

- **Source:** Ontario Ministry of Education, *Growing Success: Assessment Evaluation, and Reporting in Ontario Schools*, © 2010. <http://www.edu.gov.on.ca/eng/policyfunding/growsuccess.pdf>
- **Annotation:** Three examples are shown here: Achievement Chart for the Arts, Grades 1-8; Achievement Chart for Science and Technology, Grades 1-8, and Achievement Chart for English, Grades 9-12. I selected them for this collection for two reasons. First, they show how in Ontario's scheme, four qualities (knowledge and understanding, thinking, communication, and application) are assessed together. In other words, the "thinking skills" or "21st century skills" are not separate from the academic work in which they are demonstrated. This approach keeps the thinking and communication skills integrated with teaching and learning, and not separated out as unconnected general skills. Two, the criteria give nice examples of how to express the four qualities. The performance level descriptions themselves are simply an intensity scale (high, considerable, some, and limited effectiveness) and would require lots of exemplars to be useful with students.

Checklist to Assess Critical Thinking Skills in the Context of an Instructional Unit 22

- **Source:** Susan M. Brookhart & Anthony J. Nitko, *Educational Assessment of Students* (7th ed.), p. 255. © 2015, Pearson.
- **Annotation.** This is a checklist, not a rubric, but it gives an example of how you can integrate assessment of critical thinking into the context of an instructional unit. For every assignment or activity in a unit, a critical thinking skill can be observed (check), not observed (dash), or not applicable (NA). This method crosses observation of critical thinking with the academic content learning.

Rating Scale for Critical Thinking Dispositions 23

- **Source:** Susan M. Brookhart & Anthony J. Nitko, *Educational Assessment of Students* (7th ed.), p. 256. © 2015, Pearson.
- **Annotation.** The educator who shared this example with us called it a rating scale, and it is set up in that format, like a number line. However, if you read the descriptions at each point on the number line, you will find that this example is actually a rubric. The criteria are expressed as questions, and the performance level descriptions are listed under each number.

Critical Thinking Rubric for PBL (grades 6-12) 24

- **Source:** © 2013, Buck Institute for Education, www.bie.org
- **Annotation.** This example describes critical thinking in the context of problem-based learning. I have selected it for this collection because both the criteria and the performance level descriptions are examples of ways to express the kinds of thinking skills involved in identifying a problem, collecting and weighing evidence, and drawing conclusions.

Self-Reflection Rubric 25

- **Source:** LearnWeb at Harvard Graduate School of Education, <https://learnweb.harvard.edu/wide/courses/files/rubriethroughlines.pdf>
- **Annotation.** This is an example of a rubric used to assess a written student self-reflection in a secondary geography class. The quality of a self-reflection has been defined by four criteria: clarity, relevance, analysis, and self-criticism.

Guidelines for Teacher-Generated Rubrics 26

- **Source:** Alberta Ministry of Education, 1994
- **Annotation.** This isn't a rubric. Rather, it's a set of guidelines from an older assessment document published by the Alberta Ministry of Education. I include it here because of its list of verbs that describe observable behavior or observable qualities in student work.

Rubric for Creativity

	Very Creative	Creative	Ordinary/Routine	Imitative
Depth and Quality of Ideas	Ideas represent a startling variety of important concepts from different contexts or disciplines	Ideas represent important concepts from different contexts or disciplines	Ideas represent important concepts from the same or similar contexts or disciplines	Ideas do not represent important concepts
Variety of Sources	Created product draws on a wide-ranging variety of sources, including different texts, media, resource persons, and/or personal experiences	Created product draws on a variety of sources, including different texts, media, resource persons, and/or personal experiences	Created product draws on a limited set of sources and media	Created product draws on only one source, and/or sources are not trustworthy or appropriate
Organization and Combination of Ideas	Ideas are combined in original and surprising ways to solve a problem, address an issue, or make something new	Ideas are combined in original ways to solve a problem, address an issue, or make something new	Ideas are combined in ways that are derived from the thinking of others (for example, of the authors in sources consulted)	Ideas are copied or restated from the source(s) consulted
Originality of Contribution	Created product is interesting, new, and/or helpful, making an original contribution that includes identifying a previously unknown problem, issue, or purpose	Created product is interesting, new, and/or helpful, making an original contribution for its intended purpose (e.g., solving a problem or addressing an issue)	Created product serves its intended purpose (e.g., solving a problem or addressing an issue)	Created product does not serve its intended purpose (e.g., solving a problem or addressing an issue)

Source: Susan M. Brookhart, *How to Create and Use Rubrics for Formative Assessment and Grading*, p. 54. © 2013, ASCD.

CREATIVE THINKING, PROBLEM SOLVING, & TEAMWORK RUBRIC

An educational experience is often created to increase critical thinking and problem solving. Creative thinking is both the ability to combine or synthesize existing ideas, images, or expertise in original ways and the experience of thinking, reacting, and working in an imaginative way characterized by a high degree of innovation, divergent thinking, and risk taking. Problem solving is the process of designing, evaluating and implementing a strategy to answer an open-ended question or achieve a desired goal. Teamwork has increasingly become an important skill in today's workplace and therefore an important skill to learn. Teamwork is a cooperative or coordinated effort on the part of a group of persons acting together as a team or in the interests of a common cause. This rubric is meant to measure these three skills. Below is a description for each skill.

Creative Thinking Definition

Creative thinking must be distinguished from less focused types of creativity such as, for example, the creativity shown by a small child's drawing, which comes not from an understanding of connections, but from an ignorance of boundaries. Creative thinking can only be expressed productively within a particular framework. The student must have a foundation in the strategies and skills of the area of study in order to make connections and synthesize. While demonstrating solid knowledge of the topic, the creative thinker, at the highest levels of performance, pushes beyond those boundaries in new, or unique, recombinations, uncovering or critically perceiving new syntheses and using or recognizing creative risk-taking to achieve a solution.

The Creative Thinking Rubric is intended to help assess creative thinking in a broad range of areas. The rubric is made up of a set of attributes that are common to creative thinking. Examples of work samples or collections of work that could be assessed for creative thinking may include research papers, lab reports, musical compositions, a mathematical equation that solves a problem, a prototype design, a reflective piece about the final product of an assignment, or other academic works. The work samples or collections of work should be completed by a group of students.

Problem Solving Definition

Problem-solving covers a wide range of activities that may vary significantly. Activities that include problem-solving by students may involve problems that range from well-defined to ambiguous in a simulated or laboratory context, or in real world settings. This rubric contains the common elements of most problem solving situations.

This rubric is designed to measure the quality of a **process**, rather than the quality of an **end product**. As a result the rubric should be used during observations of groups solving problems rather than assessment of a final product.

Teamwork Definition

Students participate on many different teams, in many different settings. For example, a given student may work on separate teams to complete a lab assignment, give an oral presentation, or complete a community service project. Furthermore, the people the student works with are likely to be different in each of these different teams. This rubric is designed to work across all of these different settings.

The rubric is meant to assess the effectiveness of the group at teamwork, not as individuals on a team. Therefore, it is possible for a group to receive a low ratings, even if some of the students on the team work fairly well. Second, this rubric is designed to measure the quality of a **process**, rather than the quality of an **end product**. As a result, observation of students working in groups will need to include some evidence of group interactions. The final product of the team's work (e.g., a written lab report, poster, device etc.) should not be assessed with this rubric. The final product does not provide enough information into the functioning of the team.

Glossary

The definitions that follow were developed to clarify terms and concepts used in this rubric only

- A great deal of assistance: The instructor will interact with the group to determine how the group is working and is able to leave the group only after using methods of direct instruction to engage all of the members of the group. It is clear that the group needs the instructor to lead the conversation and to make sure everyone is engaged.
- Assistance: The instructor will interact with the group to determine how the group is working and is able to leave the group only after answering a significant number of questions to provide focus and /or content knowledge. It is clear that the group needs the instructor to refresh the group on how to work as a team in order for the group to continue to function.
- Little assistance: The instructor will interact with the group to determine how the group is working and is able to leave the group after answering some questions to provide focus or better understanding.
- No Assistance: The instructor will interact with the group to determine how the group is working and is able to leave the group after answering only a few questions.



Women in Engineering – Improving Program Assessment Tools

- WE-IMPACT is a collaboration of WE@RIT and Women in Technology and funded by the Engineering Information Foundation



CREATIVE THINKING, PROBLEM SOLVING, & TEAMWORK RUBRIC

	4 Exemplary	3 Proficient	2 Developing	1 Needs Development	Comments
Creative Thinking					
Ideation/Brain Storming	The group frequently sees links between seemingly unrelated ideas. Able to produce results that are novel and well developed.	The group often produces novel and unique ideas and produces results with little or no support.	The group occasionally produces novel and unique ideas and produces results but only with guidance.	The group is unable to produce novel and/or unique ideas and results without significant guidance and encouragement.	
Realization	The group actively seeks out and follows through on untested ideas or approaches to a problem. The risk of failure is a real possibility, but does not constrain the group.	The group is willing to consider and follow through on untested ideas or approaches to a problem. The risk of failure is a possibility, and puts some constraint on the group.	The group considers untested ideas or approaches to a problem only with strong encouragement. The risk of failure constrains the group.	The group will not consider untested ideas. Stays strictly within the constraints of the problem which ensures that there is little risk of failure.	
Problem Solving					
Define Problem	The group identifies the key elements of the problem and clearly outlines the objectives in an effective manner with no assistance.	The group identifies the key elements of the problem and clearly outlines the objectives in an effective manner with little assistance.	The group identifies the key elements of the problem and clearly outlines the objectives in an effective manner with assistance.	The group is unable to identify the key elements of the problem and/or the objectives without a great deal of assistance.	
Process	The group develops strategies that are insightful and use logical reasoning to reach accurate results with no assistance.	The group develops strategies that are insightful and use logical reasoning to reach accurate results with little assistance.	The group develops strategies that are insightful and use logical reasoning to reach accurate results with assistance.	The group is unable to develop strategies that are insightful and logical without a great deal of assistance.	

Synergistic Rubric Version 1.1

Teamwork					
Communication	Everyone is fully engaged with effective exchange of ideas.	Everyone is engaged most of the time. The exchange of ideas is effective most of the time.	The group is engaged but can be distracted. Ideas are exchanged with encouragement.	The group is only engaged with encouragement or not all members are engaged. Ideas are not exchanged effectively.	
Interpersonal Engagement	Members of the group share respect for each other. All members of the group feel free to ask questions and contribute. Conflicts are resolved with open dialogue and compromise.	There is a general atmosphere of respect for all group members. The majority of group members feel free to ask questions and contribute. Members are generally able to resolve conflicts through open discussion.	There is a general atmosphere of respect for group members, but some members of the group do not feel free to ask questions and contribute. Members are generally able to resolve conflicts through open discussion with outside assistance.	The group atmosphere is competitive and/or individualistic. Conflicts that arise are not dealt with or cannot be resolved and/or there are no effective group interactions.	

COLLABORATIVE WORK SKILLS RUBRIC

	4	3	2	1
Contributions	In large- and small-group discussions, shares helpful ideas. Leads the discussion and makes a strong effort to contribute.	In large- and small-group discussions, often shares helpful ideas. Clearly strives to participate.	In large- and small-group discussions, sometimes shares helpful ideas. Makes the required effort to participate but no more.	In large- and small-group discussions, rarely shares helpful ideas. Participates minimally or not at all.
Time management	Completes assignments on time throughout the project. Does not cause the group to change deadlines or reassign work because of lateness.	Usually completes assignments on time throughout the project. Does not cause the group to change deadlines or reassign work because of lateness.	May put things off, but turns assignments in on time. Does not cause the group to change deadlines or reassign work because of lateness.	Routinely misses deadlines, puts off work, and causes group to change deadlines or reassign work because of lateness.
Problem solving	Makes a clear effort to find and share answers to problems.	Does not actively seek answers to problems but helps to improve those found by others.	Accepts solutions found by others without changing them. Is willing to try suggested answers to problems.	Makes no effort to find, share, or try answers to problems. Leaves all work to others.
Working with others	Listens well and assists others in their efforts. Facilitates group work.	Usually listens well and assists others in their efforts. Does not facilitate group work, but doesn't hinder it either.	Sometimes listens well and assists others in their efforts but may be difficult to work with.	Does not listen well or assist others; may not participate in group work.
Research techniques	Always looks at varied sources and records information in detail.	Usually studies varied sources and records information in some detail.	Often studies varied sources and records information, but sometimes it is sketchy.	Rarely looks at more than one source and barely takes any notes.
Synthesis	Arranges information found by self and others into useful formulations; is able to manage complex ideas.	Usually arranges information found by self and others into useful formulations; may need help in managing complex ideas.	Sometimes arranges information found by self and others into useful formulations. Does not manage complex ideas.	Rarely or never arranges information into useful formulations or manages complex ideas.

APPENDIX F

Assessment of Metacognition

DEFINITION OF METACOGNITION

There are many facets to teaching students to use thinking skills. In Chapter 2 we discussed several frameworks for identifying thinking skills that should be incorporated into your teaching and assessment practices. One broad area of thinking that has received considerable attention in recent years from researchers and curriculum specialists is students' abilities to monitor and control their own thinking in relation to the cognitive tasks they are performing. Monitoring and controlling one's own thinking processes are complex skills themselves. The cluster of such related skills is known as metacognitive skills.

Metacognition is defined as "one's knowledge concerning one's own cognitive processes and products or anything related to them. . . . For example, I am engaging in metacognition . . . if I notice that I am having more trouble learning A than B; if it strikes me that I should double check C before accepting it as a fact. . . . Metacognition refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes . . . usually in the service of some concrete goal or objective" (Flavell, 1976, p. 232).

As can be surmised, students engage in metacognitive thinking when they are aware of their thoughts as they perform specific learning activities and then use this awareness to control what they are doing (Marzano et al., 1988).

TYPES OF METACOGNITIVE SKILLS

The metacognitive cluster of skills can be organized in several ways. The Marzano et al. (1988) organization gives a brief overview of this domain of learning targets.

- I. **Self-regulation skills** are used by students when they are aware that they can control their commitment, attitudes, and attention toward academic tasks.
 - A. *Commitment to an academic task* is a student's conscious decision to choose to do the task, whether or not it is fun for the student.
 - B. *Positive attitude toward an academic task* is a student's belief that she can perform the task and that the main determiner of success on it is her own efforts, not luck, natural talent, or help from others.
 - C. *Controlling attention to the requirements of an academic task* occurs when a student recognizes that he must control the level and focus of his attention to match the requirements of the task to be performed.
- II. **Types of knowledge** used by students must be appropriate for performing the academic task at hand.
 - A. *Declarative knowledge* is exhibited when a student knows what needs to be done, knows factual information, or knows that something is to be done.
 - B. *Procedural knowledge* is exhibited when a student is able to perform a task or to apply strategies to complete tasks.
 - C. *Conditional knowledge* is exhibited when a student is aware of why certain procedures or strategies are used or in what circumstances one procedure or strategy is preferred over another.
- III. **Executive control skills** are used by students when they evaluate, plan, and check their own progress in completing an academic task.
 - A. *Evaluation skills* are used when a student assesses her current state of knowledge before, during, and at the completion of an academic task; identifies available and still-needed resources for

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completing the academic task; and identifies the goals and subgoals of the academic task.

- B. *Planning skills* are used by a student before and during the completion of an academic task when the student deliberately chooses procedures and strategies to do the task.
- C. *Regulating processes skills* are used by a student while completing an academic task when the student monitors his progress toward completing the task successfully.

These categories of skills are not hierarchical and, in practice, students usually use them in combination to complete academic tasks.

ASSESSING METACOGNITION WITH PAPER-AND-PENCIL INSTRUMENTS

Suggestions for how to model and teach these skills are found in other sources (Good & Brophy, 2002; Marzano et al., 1988). Here we give some examples of simple

ways to assess students' perceptions of whether they use these skills.

Teachers have found this type of assessment information useful for planning instruction (Tittle, 1989; Tittle, Hecht, & Moore, 1993). To create an instrument, you need to identify a specific instructional activity on which to focus the items. For example, you may wish to focus on students' metacognitions during class, while working with others, while doing homework or other assignments and projects, or when they complete tests or other assessment activities used for summative evaluation (Tittle et al., 1993). Then, using the subcategories of metacognitive skills, write statements describing a student's thoughts, beliefs, or awareness about the specific type of activity. Write both positive and negative statements (i.e., "good" and "poor" metacognitions) for each category. Give each student a copy of the list and ask him or her to indicate how often he or she does the things in each statement.

Figure F.1 shows some examples of statements related to various metacognitions that may occur when students

FIGURE F.1 Examples of positively and negatively phrased items that assess how students report using metacognitions when preparing a social studies research paper.

<i>Directions to students:</i> These questions ask about how often you do some things when you write a research paper in social studies. Circle the number that tells how often you do each thing.					
Never or almost never	Sometimes	Often	Always or almost always	Don't Know	
1	2	3	4	DK	
1. When the paper is not a lot of fun, I work very hard to do a good job on it. [I.A,+]	1	2	3	4	DK
2. When the paper is not a lot of fun, I do not work very hard on it. [I.A,-]	1	2	3	4	DK
3. I do a good job on the paper even though I am less talented than other students. [I.B,+]	1	2	3	4	DK
4. I have to get really lucky to do a good job on the paper. [I.B,-]	1	2	3	4	DK
5. When I read articles related to my paper, I read only those parts related to my topic. [I.C,+]	1	2	3	4	DK
6. When reading articles about the topic of my paper, I give equal attention to everything in the article. [I.C,-]	1	2	3	4	DK
7. My research papers have an introductory section that tells why the topic is important. [II.A,+]	1	2	3	4	DK
8. My research papers list the facts about the topic but do not give my interpretation of the meaning of the facts. [II.A,-]	1	2	3	4	DK
9. I make tables in my research papers to compare information on the topic. [II.B,+]	1	2	3	4	DK
10. I do not use note cards when preparing my research paper. [II.B,-]	1	2	3	4	DK
11. Before I decide to use a graph or a chart I ask myself which idea in the paper it supports. [II.C,+]	1	2	3	4	DK
12. I use lots of graphs or charts in my research reports. [II.C,-]	1	2	3	4	DK
13. One of the first things I do when I start my paper assignment is to make a list of what I already know about the topic. [III.A,+]	1	2	3	4	DK
14. Before I do anything else on the paper I go to the library to find all the books and articles about my topic. [III.B,-]	1	2	3	4	DK
15. After I complete my research paper I ask myself what I learned about the topic. [III.A,+]	1	2	3	4	DK
16. After I complete my research paper, I do not think about the topic anymore. [III.A,-]	1	2	3	4	DK
17. When I am ready to begin collecting information, I ask myself what sources would be best to use first. [III.B,+]	1	2	3	4	DK
18. No matter what the topic of my paper, I go first to the encyclopedia to look up the topic. [III.B,-]	1	2	3	4	DK
19. While I am writing the paper I think about whether it meets the criteria for a good research report. [III.C,+]	1	2	3	4	DK
20. As soon as I have a little information on the topic, I begin writing the paper. [III.C,-]	1	2	3	4	DK

Notes: Codes in brackets refer to outline in the text.

work on a social studies research paper. Students are asked to identify how often they engage in the thoughts, actions, or beliefs listed. The statements are arranged to follow the outline of metacognitive skills discussed earlier. The statements are in pairs: The odd-numbered member of the pair is a positive statement, and the even-numbered one is a negative statement. The codes in the brackets identify the skill in the outline and whether the statement is positively or negatively worded. Remember that Figure F.1 is just a list of examples, not a sample

instrument per se. In an actual instrument you would scramble the order of positive and negative statements so as not to have a pattern, omit the codes, and have more than two statements per category. Also, you might not assess some categories because of the nature of the particular activity on which you are focusing. Note that such an instrument may be inappropriate for primary children, whose reading skills may not be sufficient to understand it.

Learning Skills/Behavior Rubric

Overview

A rubric is a performance-based assessment that seeks to measure or rate the quality of a students' work or behavior using a scoring guide. This five-point rubric, ranging from "no concept" to "distinguished," was designed to focus on work or behavior typically addressed in gifted education. It is meant to provide an assessment that may be used as benchmark or formative data to describe present levels of academic achievement and functional performance in developing annual goals for an Individualized Education Program (IEP). It is based on Costa and Kallick's 16 Habits of Mind, but also includes elements from Bloom's Revised Taxonomy and Marzano's Dimensions of Learning and 21st Century Learning Skills.

There are many custom made analytic rubrics available to assess components of a finished product, such as research project rubrics and writing rubrics. This rubric is intended as a holistic approach, assessing the student's whole behavior, but a teacher may use it to identify certain behavior(s) to address in the IEP. It may be presented as a pre-post test or as a recurring progress monitoring tool. It may also be presented to the student as a self-assessment.

The following chart provides a range of scores corresponding to each of the five levels of this rubric. Using the rubric holistically, the student's **total** score is used to find the performance level.

	No Concept	Limited/Incomplete	Developing	Proficient	Distinguished
Score ranges	0-14	15-30	31-49	50-65	66-80

Instructions

The Learning Skills/Behavior Rubric contains 20 elements. Scoring requires the assignment of **one** of the numbers **0, 1, 2, 3, or 4** for each element in the spaces provided to the right of the descriptions. The overall score across all elements is determined by adding the scores from each of the elements.

Using the Learning Skills/Behavior Rubric as a pre/post model, the same teacher should pre- and post- assess the student to be consistent in scoring. The score should reflect the student's success and also encourage him/her to continue to develop greater independence in monitoring and evaluating own skills and behavior.

Credits

* Intel Teach Thinking with Technology Course "Higher Order Thinking Skills" (Online) 2006.

<http://download.intel.com/education/EvidenceOfImpact/HigherOrderSkills.pdf>

* Heidi Goodrich Andrade. "Understanding Rubrics." (Online) 22 October 2001.

<http://www.middleweb.com/rubricsHG.html>

Learning Skills/Behavior Rubric

Date:

County:

Student Name (Last – First):

Grade:

Student Number:

Class:

Description	Score
1. Persisting – When dealing with a new problem, the student	
• gives up on a problem-solving task.	<i>No Concept</i> – 0 ___
• stays on task with prompting.	<i>Limited/Incomplete</i> – 1 ___
• sporadically stays on task without prompting.	<i>Developing</i> – 2 ___
• sustains problem solving process over time.	<i>Proficient</i> – 3 ___
• is devoted to problem-solving tasks.	<i>Distinguished</i> – 4 ___
2. Managing Impulsivity – When attempting a task, the student	
• is unable to control actions; is impulsive; does not consider a plan of action.	<i>No Concept</i> – 0 ___
• manages negative emotions with assistance; is unable to maintain focus over time.	<i>Limited/Incomplete</i> – 1 ___
• preempts negative emotions before they escalate; engages in goal setting and planning with guidance; maintains focus with prompting.	<i>Developing</i> – 2 ___
• thinks before acting and maintains focus; sets goals and strategically plans to reach those goals; exercises self-restraint without assistance.	<i>Proficient</i> – 3 ___
• intentionally forms a plan before beginning a task; remains composed and focused even under stress.	<i>Distinguished</i> – 4 ___
3. Listening to others with understanding and empathy - When given written and/or spoken texts, the student	
• fails to listen to others.	<i>No Concept</i> – 0 ___
• selectively listens to others.	<i>Limited/Incomplete</i> – 1 ___
• always listens to others.	<i>Developing</i> – 2 ___
• listens and demonstrates understanding of another person's point of view.	<i>Proficient</i> – 3 ___
• listens empathetically and demonstrates understanding of another person's point of view that differs from own.	<i>Distinguished</i> – 4 ___
4. Thinking flexibly - When new data is provided, the student	
• does not consider new information; makes spur-of-the-moment decisions; rigidly follows plan when developed by the teacher or others.	<i>No Concept</i> – 0 ___
• accepts the information as given; restates facts; does not apply facts to actions and continues to follow plan as developed by self or others.	<i>Limited/Incomplete</i> – 1 ___
• considers new information and demonstrates ability to change direction or use different strategies with guidance.	<i>Developing</i> – 2 ___
• considers new information and adjusts effort and strategies when needed.	<i>Proficient</i> – 3 ___
• considers new information, adjusts performance and extends learning to new situations.	<i>Distinguished</i> – 4 ___
5. Thinking about our thinking (metacognition) - When in a learning situation, the student	
• is unaware of individual learning processes	<i>No Concept</i> – 0 ___
• has a limited awareness of certain basic learning processes.	<i>Limited/Incomplete</i> – 1 ___
• is aware of individual learning processes with guidance from the teacher or using visual models.	<i>Developing</i> – Enter 2 ___
• is aware of and applies individual learning processes and can explain strategies in own decision-making.	<i>Proficient</i> – 3 ___
• can consciously reflect on what learning process works and what doesn't; adjusts accordingly; can explain process to others.	<i>Distinguished</i> – 4 ___

Learning Skills/Behavior Rubric

	Description	Score	
6. Striving for accuracy and precision - In any presentation of work, the student			
	<ul style="list-style-type: none"> turns in sloppy, incomplete or uncorrected work; is disorganized (possibly due to many ideas); is impatient with details or restrictions; does not value accuracy and precision in work. 	<i>No Concept - 0</i>	—
	<ul style="list-style-type: none"> corrects work only when reminded; accepts direction in correcting work. 	<i>Limited/Incomplete - 1</i>	—
	<ul style="list-style-type: none"> is able to confirm that his/her finished product matches a criteria. 	<i>Developing - 2</i>	—
	<ul style="list-style-type: none"> proofreads and checks the quality of personal work; values accuracy and precision. 	<i>Proficient - 3</i>	—
	<ul style="list-style-type: none"> evaluates work and produces exceptional results; understands the importance of and values accuracy and precision; focuses energy on accomplishing tasks with perfection. 	<i>Distinguished - 4</i>	—
7. Questioning and posing problems - The student			
	<ul style="list-style-type: none"> is not able to generate appropriate questions about a problem. 	<i>No Concept - 0</i>	—
	<ul style="list-style-type: none"> is able to generate closed-ended questions but is afraid to probe deeper into an issue or problem. 	<i>Limited/Incomplete - 1</i>	—
	<ul style="list-style-type: none"> is not afraid to probe deeper into an issue or problem but needs prompting from teacher to generate appropriate questions. 	<i>Developing - 2</i>	—
	<ul style="list-style-type: none"> is able to generate appropriate questions to see alternative points of view. 	<i>Proficient - 3</i>	—
	<ul style="list-style-type: none"> is able to pose hypothetical problems; makes connections and relationships. 	<i>Distinguished - 4</i>	—
8. Applying past knowledge to new situations - The student			
	<ul style="list-style-type: none"> considers each event to be separate with no connections to what came before or comes afterward. 	<i>No Concept - 0</i>	—
	<ul style="list-style-type: none"> is able to apply some events to other contexts. 	<i>Limited/Incomplete - 1</i>	—
	<ul style="list-style-type: none"> uses experience from the past when confronted with a new problem when reminded by others how it relates. 	<i>Developing - 2</i>	—
	<ul style="list-style-type: none"> uses previous, knowledge, data, theories or processes to solve challenges. 	<i>Proficient - 3</i>	—
	<ul style="list-style-type: none"> abstracts meaning from an experience, applies it to a new situation and explains how it relates to previous experiences. 	<i>Distinguished - 4</i>	—
9. Thinking and communicating with clarity and precision - The student			
	<ul style="list-style-type: none"> uses vague and imprecise language; does not communicate clearly or effectively. 	<i>No Concept - 0</i>	—
	<ul style="list-style-type: none"> with considerable assistance, articulates thoughts and ideas, representative of real or imaginary experiences, through oral, written or multimedia communication. 	<i>Limited/Incomplete - 1</i>	—
	<ul style="list-style-type: none"> with some assistance, articulates thoughts and ideas through oral, written or multimedia communication. 	<i>Developing - 2</i>	—
	<ul style="list-style-type: none"> articulates accurately, clearly and effectively in oral, written or multimedia communication while avoiding over generalizations and deletions. 	<i>Proficient - 3</i>	—
	<ul style="list-style-type: none"> articulates accurately, clearly and precisely in oral, written and multimedia communication and demonstrates complexity with supporting statements. 	<i>Distinguished - 4</i>	—
10. Gathering data through all senses - The student			
	<ul style="list-style-type: none"> is oblivious to sensory stimuli. 	<i>No Concept - 0</i>	—
	<ul style="list-style-type: none"> uses a narrow range of sensory problem solving strategies to learn. 	<i>Limited/Incomplete - 1</i>	—
	<ul style="list-style-type: none"> uses all available sensory pathways to learn but needs some assistance in using the information to solve problems. 	<i>Developing - 2</i>	—
	<ul style="list-style-type: none"> uses all available sensory pathways to learn and transfers the information to improve overall learning; can distinguish fact from fiction. 	<i>Proficient - 3</i>	—
	<ul style="list-style-type: none"> observes the environment, using all senses to gather and evaluate the information, skillfully using it to solve problems. 	<i>Distinguished - 4</i>	—

Learning Skills/Behavior Rubric

Description	Score
11. Creating, imagining and innovating - The student	
• appears happy with status quo; cannot generate any new ideas.	<i>No Concept - 0</i> ___
• tries to solve problems by examining alternative possibilities	<i>Limited/Incomplete - 1</i> ___
• generates more than one original idea, ingenious product and solution to problems.	<i>Developing - 2</i> ___
• strives for greater fluency of ideas, flexibility, originality and elaboration.	<i>Proficient - 3</i> ___
• evaluates to refine work; engages discovery, exploration, and experimentation to reach unexpected answers.	<i>Distinguished - 4</i> ___
12. Responding with wonderment and awe - The student	
• does not appear to enjoy learning.	<i>No Concept - 0</i> ___
• appears curious at times.	<i>Limited/Incomplete - 1</i> ___
• is curious most of the time.	<i>Developing - 2</i> ___
• is curious, sees and responds to the beauty of the world and enjoys learning.	<i>Proficient - 3</i> ___
• is enthusiastic and passionate about learning.	<i>Distinguished - 4</i> ___
13. Taking responsible risks - The student	
• misses opportunities to learn	<i>No Concept - 0</i> ___
• is aware of opportunities to learn but unwilling to risk failure.	<i>Limited/Incomplete - 1</i> ___
• realizes failure is a part of the learning process and shows a willingness to take a chance with support.	<i>Developing - 2</i> ___
• accepts educated risks as a challenging part of the learning process.	<i>Proficient - 3</i> ___
• is a responsible risk-taker and views setbacks not as failure but challenges with opportunities to grow.	<i>Distinguished - 4</i> ___
14. Finding humor - The student	
• finds humor in inappropriate situations.	<i>No Concept - 0</i> ___
• finds humor in appropriate situations, yet unable to laugh at self.	<i>Limited/Incomplete - 1</i> ___
• finds humor in situations from an original vantage point.	<i>Developing - 2</i> ___
• initiates humor more often than classmates; finds humor in the "right places;" is able to laugh at self.	<i>Proficient - 3</i> ___
• values having a sense of humor and understands humor of others.	<i>Distinguished - 4</i> ___
15. Thinking interdependently - When given group work, the student	
• prefers to work alone; is intolerant of others or tries to dominate others; interrupts, "shows off" or ignores group activities to pursue individual interests.	<i>No Concept - 0</i> ___
• is able to partially accomplish tasks; works ineffectively in groups.	<i>Limited/Incomplete - 1</i> ___
• works cooperatively and is able to accomplish tasks in certain small groups.	<i>Developing - 2</i> ___
• is open and receptive to feedback from others; draws positive energy from group members while accomplishing tasks in a variety of roles and responsibilities.	<i>Proficient - 3</i> ___
• engages in collaborative work and assumes different roles and responsibilities to accomplish tasks effectively using group dynamic skills; helps others stay focused and successfully moves the group toward the goal.	<i>Distinguished - 4</i> ___
16. Learning continuously - The student	
• is self-confident in knowledge already attained; closed to uncertainty/new experiences.	<i>No Concept - 0</i> ___
• confronts learning opportunities with fear rather than with wonder.	<i>Limited/Incomplete - 1</i> ___
• is open to new learning experiences as long as little effort is required.	<i>Developing - 2</i> ___
• is eager to learn and invites the unknown, the creative, the inspirational, even if extra effort is required. Learning appears to be very important.	<i>Proficient - 3</i> ___
• seizes every opportunity as a valuable learning experience; searches for new and better ways of learning, striving for improvement.	<i>Distinguished - 4</i> ___

Learning Skills/Behavior Rubric

Description	Score	
17. Reasoning - The student		
• does not understand systems.	<i>No Concept - 0</i>	—
• inaccurately identifies parts of a system; cannot explain how those parts interact with one another.	<i>Limited/Incomplete - 1</i>	—
• somewhat accurately identifies parts of a system with assistance and attempts to explain how those parts interact with one another.	<i>Developing - 2</i>	—
• accurately identifies parts of a system and explains how those parts interact with one another.	<i>Proficient - 3</i>	—
• accurately identifies parts of a system and explains how those parts interact with one another and analyzes and interprets relationships between systems.	<i>Distinguished - 4</i>	—
18. Work Ethic - The student		
• does not use classroom project time well OR typically is disruptive to the work of others.	<i>No Concept - 0</i>	—
• sometimes uses classroom project time well but is often off-task and disruptive to the work of others.	<i>Limited/Incomplete - 1</i>	—
• usually uses classroom project time well, but occasionally distracts others from their work, although not in a hostile manner.	<i>Developing - 2</i>	—
• always uses classroom project time well. Most conversations are focused on the project and are held in a manner that typically does not disrupt others; is aware of one's actions and the effects of those actions on others.	<i>Proficient - 3</i>	—
• always uses classroom project time well. Conversations are primarily focused on the project and are held in a manner that does not disrupt others; can explain cause and effect of actions.	<i>Distinguished - 4</i>	—
19. Ethical Behavior - The student		
• does not show an understanding of right and wrong.	<i>No Concept - 0</i>	—
• shows a basic sense of right and wrong but does not apply in all situations; obtains information from limited or inappropriate sources.	<i>Limited/Incomplete - 1</i>	—
• shows a basic sense of right and wrong; borrowed materials are documented with considerable intervention.	<i>Developing - 2</i>	—
• demonstrates an understanding of ethical behavior; borrowed materials are properly documented.	<i>Proficient - 3</i>	—
• shows a well-developed sense of right and wrong. Fair use guidelines are followed with clear, easy-to-locate and accurate citations for all borrowed material. No material is included from Web sites that state that permission is required unless permission has been obtained.	<i>Distinguished - 4</i>	—
20. Civic Responsibility - The student		
• shows little regard for peers and adults by keeping work, play and public areas clean and organized.	<i>No Concept - 0</i>	—
• shows some regard for peers and adults by keeping work, play and public areas clean and organized with teacher intervention.	<i>Limited/Incomplete - 1</i>	—
• shows regard for peers and adults by keeping work, play and public areas clean and organized with minimal assistance.	<i>Developing - 2</i>	—
• shows considerable regard for peers and adults and is involved in home, school and/or community service.	<i>Proficient - 3</i>	—
• shows considerable regard for peers and adults and initiates service projects to help others in the home, school and/or community.	<i>Distinguished - 4</i>	—
0-14 (No Concept) 31-49 (Developing) 66-80 (Distinguished)	15-30 (Limited/Incomplete) 50-65 (Proficient)	Overall Score: —

Learning Skills and Work Habits

Sample Behaviours

Responsibility

The student:

- fulfils responsibilities and commitments within the learning environment;
- completes and submits class work, homework, and assignments according to agreed-upon timelines;
- takes responsibility for and manages own behaviour.

Organization

The student:

- devises and follows a plan and process for completing work and tasks;
- establishes priorities and manages time to complete tasks and achieve goals;
- identifies, gathers, evaluates, and uses information, technology, and resources to complete tasks.

Independent Work

The student:

- independently monitors, assesses, and revises plans to complete tasks and meet goals;
- uses class time appropriately to complete tasks;
- follows instructions with minimal supervision.

Collaboration

The student:

- accepts various roles and an equitable share of work in a group;
- responds positively to the ideas, opinions, values, and traditions of others;
- builds healthy peer-to-peer relationships through personal and media-assisted interactions;
- works with others to resolve conflicts and build consensus to achieve group goals;
- shares information, resources, and expertise and promotes critical thinking to solve problems and make decisions.

Initiative

The student:

- looks for and acts on new ideas and opportunities for learning;
- demonstrates the capacity for innovation and a willingness to take risks;
- demonstrates curiosity and interest in learning;
- approaches new tasks with a positive attitude;
- recognizes and advocates appropriately for the rights of self and others.

Self-regulation

The student:

- sets own individual goals and monitors progress towards achieving them;
- seeks clarification or assistance when needed;
- assesses and reflects critically on own strengths, needs, and interests;
- identifies learning opportunities, choices, and strategies to meet personal needs and achieve goals;
- perseveres and makes an effort when responding to challenges.

THE ACHIEVEMENT CHART FOR THE ARTS: GRADES 1–8

Categories	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding – Subject-specific content acquired in each grade (knowledge), and the comprehension of its meaning and significance (understanding)				
	The student:			
Knowledge of content (e.g., facts, genres, terms, definitions, techniques, elements, principles, forms, structures, conventions)	demonstrates limited knowledge of content	demonstrates some knowledge of content	demonstrates considerable knowledge of content	demonstrates thorough knowledge of content
Understanding of content (e.g., concepts, ideas, procedures, processes, themes, relationships among elements, informed opinions)	demonstrates limited understanding of content	demonstrates some understanding of content	demonstrates considerable understanding of content	demonstrates thorough understanding of content
Thinking – The use of critical and creative thinking skills and/or processes				
	The student:			
Use of planning skills (e.g., formulating questions, generating ideas, gathering information, focusing research, outlining, organizing an arts presentation or project, brainstorming/bodystorming, blocking, sketching, using visual organizers, listing goals in a rehearsal log, inventing notation)	uses planning skills with limited effectiveness	uses planning skills with some effectiveness	uses planning skills with considerable effectiveness	uses planning skills with a high degree of effectiveness
Use of processing skills (e.g., analysing, evaluating, inferring, interpreting, editing, revising, refining, forming conclusions, detecting bias, synthesizing)	uses processing skills with limited effectiveness	uses processing skills with some effectiveness	uses processing skills with considerable effectiveness	uses processing skills with a high degree of effectiveness
Use of critical/creative thinking processes (e.g., creative and analytical processes, design process, exploration of the elements, problem solving, reflection, elaboration, oral discourse, evaluation, critical literacy, metacognition, invention, critiquing, reviewing)	uses critical/creative thinking processes with limited effectiveness	uses critical/creative thinking processes with some effectiveness	uses critical/creative thinking processes with considerable effectiveness	uses critical/creative thinking processes with a high degree of effectiveness

Categories	Level 1	Level 2	Level 3	Level 4
Communication – The conveying of meaning through various forms				
	The student:			
Expression and organization of ideas and understandings in art forms (dance, drama, music, and the visual arts), including media/multimedia forms (e.g., expression of ideas and feelings using visuals, movements, the voice, gestures, phrasing, techniques), and in oral and written forms (e.g., clear expression and logical organization in critical responses to art works and informed opinion pieces)	expresses and organizes ideas and understandings with limited effectiveness	expresses and organizes ideas and understandings with some effectiveness	expresses and organizes ideas and understandings with considerable effectiveness	expresses and organizes ideas and understandings with a high degree of effectiveness
Communication for different audiences (e.g., peers, adults, younger children) and purposes through the arts (e.g., drama presentations, visual arts exhibitions, dance and music performances) and in oral and written forms (e.g., debates, analyses)	communicates for different audiences and purposes with limited effectiveness	communicates for different audiences and purposes with some effectiveness	communicates for different audiences and purposes with considerable effectiveness	communicates for different audiences and purposes with a high degree of effectiveness
Use of conventions in dance, drama, music, and the visual arts (e.g., allegory, narrative or symbolic representation, style, articulation, drama conventions, choreographic forms, movement vocabulary) and arts vocabulary and terminology in oral and written forms	uses conventions, vocabulary, and terminology of the arts with limited effectiveness	uses conventions, vocabulary, and terminology of the arts with some effectiveness	uses conventions, vocabulary, and terminology of the arts with considerable effectiveness	uses conventions, vocabulary, and terminology of the arts with a high degree of effectiveness
Application – The use of knowledge and skills to make connections within and between various contexts				
	The student:			
Application of knowledge and skills (e.g., performance skills, composition, choreography, elements, principles, processes, technologies, techniques, strategies, conventions) in familiar contexts (e.g., guided improvisation, performance of a familiar work, use of familiar forms)	applies knowledge and skills in familiar contexts with limited effectiveness	applies knowledge and skills in familiar contexts with some effectiveness	applies knowledge and skills in familiar contexts with considerable effectiveness	applies knowledge and skills in familiar contexts with a high degree of effectiveness
Transfer of knowledge and skills (e.g., concepts, strategies, processes, techniques) to new contexts (e.g., a work requiring stylistic variation, an original composition, student-led choreography, an interdisciplinary or multidisciplinary project)	transfers knowledge and skills to new contexts with limited effectiveness	transfers knowledge and skills to new contexts with some effectiveness	transfers knowledge and skills to new contexts with considerable effectiveness	transfers knowledge and skills to new contexts with a high degree of effectiveness
Making connections within and between various contexts (e.g., between the arts; between the arts and personal experiences and the world outside the school; between cultural and historical, global, social, and/or environmental contexts; between the arts and other subjects)	makes connections within and between various contexts with limited effectiveness	makes connections within and between various contexts with some effectiveness	makes connections within and between various contexts with considerable effectiveness	makes connections within and between various contexts with a high degree of effectiveness

ACHIEVEMENT CHART – SCIENCE AND TECHNOLOGY, GRADES 1–8

Categories	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding – Subject-specific content acquired in each grade (knowledge), and the comprehension of its meaning and significance (understanding)				
	The student:			
Knowledge of content (e.g., facts; terminology; definitions; safe use of tools, equipment, and materials)	demonstrates limited knowledge of content	demonstrates some knowledge of content	demonstrates considerable knowledge of content	demonstrates thorough knowledge of content
Understanding of content (e.g., concepts, ideas, theories, principles, procedures, processes)	demonstrates limited understanding of content	demonstrates some understanding of content	demonstrates considerable understanding of content	demonstrates thorough understanding of content
Thinking and Investigation – The use of critical and creative thinking skills and inquiry and problem-solving skills and/or processes				
	The student:			
Use of initiating and planning skills and strategies (e.g., formulating questions, identifying the problem, developing hypotheses, scheduling, selecting strategies and resources, developing plans)	uses initiating and planning skills and strategies with limited effectiveness	uses initiating and planning skills and strategies with some effectiveness	uses initiating and planning skills and strategies with considerable effectiveness	uses initiating and planning skills and strategies with a high degree of effectiveness
Use of processing skills and strategies (e.g., performing and recording, gathering evidence and data, observing, manipulating materials and using equipment safely, solving equations, proving)	uses processing skills and strategies with limited effectiveness	uses processing skills and strategies with some effectiveness	uses processing skills and strategies with considerable effectiveness	uses processing skills and strategies with a high degree of effectiveness
Use of critical/creative thinking processes, skills, and strategies (e.g., analysing, interpreting, problem solving, evaluating, forming and justifying conclusions on the basis of evidence)	uses critical/creative thinking processes, skills, and strategies with limited effectiveness	uses critical/creative thinking processes, skills, and strategies with some effectiveness	uses critical/creative thinking processes, skills, and strategies with considerable effectiveness	uses critical/creative thinking processes, skills, and strategies with a high degree of effectiveness
Communication – The conveying of meaning through various forms				
	The student:			
Expression and organization of ideas and information (e.g., clear expression, logical organization) in oral, visual, and/or written forms (e.g., diagrams, models)	expresses and organizes ideas and information with limited effectiveness	expresses and organizes ideas and information with some effectiveness	expresses and organizes ideas and information with considerable effectiveness	expresses and organizes ideas and information with a high degree of effectiveness

Categories	Level 1	Level 2	Level 3	Level 4
Communication (continued)				
	The student:			
Communication for different audiences (e.g., peers, adults) and purposes (e.g., to inform, to persuade) in oral, visual, and/or written forms	communicates for different audiences and purposes with limited effectiveness	communicates for different audiences and purposes with some effectiveness	communicates for different audiences and purposes with considerable effectiveness	communicates for different audiences and purposes with a high degree of effectiveness
Use of conventions, vocabulary, and terminology of the discipline in oral, visual, and/or written forms (e.g., symbols, formulae, scientific notation, SI units)	uses conventions, vocabulary, and terminology of the discipline with limited effectiveness	uses conventions, vocabulary, and terminology of the discipline with some effectiveness	uses conventions, vocabulary, and terminology of the discipline with considerable effectiveness	uses conventions, vocabulary, and terminology of the discipline with a high degree of effectiveness
Application – The use of knowledge and skills to make connections within and between various contexts				
	The student:			
Application of knowledge and skills (e.g., concepts and processes, safe use of equipment and technology, investigation skills) in familiar contexts	applies knowledge and skills in familiar contexts with limited effectiveness	applies knowledge and skills in familiar contexts with some effectiveness	applies knowledge and skills in familiar contexts with considerable effectiveness	applies knowledge and skills in familiar contexts with a high degree of effectiveness
Transfer of knowledge and skills (e.g., concepts and processes, safe use of equipment and technology, investigation skills) to unfamiliar contexts	transfers knowledge and skills to unfamiliar contexts with limited effectiveness	transfers knowledge and skills to unfamiliar contexts with some effectiveness	transfers knowledge and skills to unfamiliar contexts with considerable effectiveness	transfers knowledge and skills to unfamiliar contexts with a high degree of effectiveness
Making connections between science, technology, society, and the environment (e.g., assessing the impact of science and technology on people, other living things, and the environment)	makes connections between science, technology, society, and the environment with limited effectiveness	makes connections between science, technology, society, and the environment with some effectiveness	makes connections between science, technology, society, and the environment with considerable effectiveness	makes connections between science, technology, society, and the environment with a high degree of effectiveness
Proposing courses of practical action to deal with problems relating to science, technology, society, and the environment	proposes courses of practical action of limited effectiveness	proposes courses of practical action of some effectiveness	proposes courses of practical action of considerable effectiveness	proposes highly effective courses of practical action

ACHIEVEMENT CHART: ENGLISH, GRADES 9–12

Categories	50–59% (Level 1)	60–69% (Level 2)	70–79% (Level 3)	80–100% (Level 4)
Knowledge and Understanding – Subject-specific content acquired in each course (knowledge), and the comprehension of its meaning and significance (understanding)				
The student:				
Knowledge of content (e.g., forms of text; strategies used when listening and speaking, reading, writing, and viewing and representing; elements of style; literary terminology, concepts, and theories; language conventions)	demonstrates limited knowledge of content	demonstrates some knowledge of content	demonstrates considerable knowledge of content	demonstrates thorough knowledge of content
Understanding of content (e.g., concepts; ideas; opinions; relationships among facts, ideas, concepts, themes)	demonstrates limited understanding of content	demonstrates some understanding of content	demonstrates considerable understanding of content	demonstrates thorough understanding of content
Thinking – The use of critical and creative thinking skills and/or processes				
The student:				
Use of planning skills (e.g., generating ideas, gathering information, focusing research, organizing information)	uses planning skills with limited effectiveness	uses planning skills with some effectiveness	uses planning skills with considerable effectiveness	uses planning skills with a high degree of effectiveness
Use of processing skills (e.g., drawing inferences, interpreting, analysing, synthesizing, evaluating)	uses processing skills with limited effectiveness	uses processing skills with some effectiveness	uses processing skills with considerable effectiveness	uses processing skills with a high degree of effectiveness
Use of critical/creative thinking processes (e.g., oral discourse, research, critical analysis, critical literacy, metacognition, creative process)	uses critical/creative thinking processes with limited effectiveness	uses critical/creative thinking processes with some effectiveness	uses critical/creative thinking processes with considerable effectiveness	uses critical/creative thinking processes with a high degree of effectiveness

Categories	50–59% (Level 1)	60–69% (Level 2)	70–79% (Level 3)	80–100% (Level 4)
Communication – The conveying of meaning through various forms				
	The student:			
Expression and organization of ideas and information (e.g., clear expression, logical organization) in oral, graphic, and written forms, including media forms	expresses and organizes ideas and information with limited effectiveness	expresses and organizes ideas and information with some effectiveness	expresses and organizes ideas and information with considerable effectiveness	expresses and organizes ideas and information with a high degree of effectiveness
Communication for different audiences and purposes (e.g., use of appropriate style, voice, point of view) in oral, graphic, and written forms, including media forms	communicates for different audiences and purposes with limited effectiveness	communicates for different audiences and purposes with some effectiveness	communicates for different audiences and purposes with considerable effectiveness	communicates for different audiences and purposes with a high degree of effectiveness
Use of conventions (e.g., grammar, spelling, punctuation, usage), vocabulary, and terminology of the discipline in oral, graphic, and written forms, including media forms	uses conventions, vocabulary, and terminology of the discipline with limited effectiveness	uses conventions, vocabulary, and terminology of the discipline with some effectiveness	uses conventions, vocabulary, and terminology of the discipline with considerable effectiveness	uses conventions, vocabulary, and terminology of the discipline with a high degree of effectiveness
Application – The use of knowledge and skills to make connections within and between various contexts				
	The student:			
Application of knowledge and skills (e.g., literacy strategies and processes; literary terminology, concepts, and theories) in familiar contexts	applies knowledge and skills in familiar contexts with limited effectiveness	applies knowledge and skills in familiar contexts with some effectiveness	applies knowledge and skills in familiar contexts with considerable effectiveness	applies knowledge and skills in familiar contexts with a high degree of effectiveness
Transfer of knowledge and skills (e.g., literacy strategies and processes; literary terminology, concepts, and theories) to new contexts	transfers knowledge and skills to new contexts with limited effectiveness	transfers knowledge and skills to new contexts with some effectiveness	transfers knowledge and skills to new contexts with considerable effectiveness	transfers knowledge and skills to new contexts with a high degree of effectiveness
Making connections within and between various contexts (e.g., between the text and personal knowledge and experience, other texts, and the world outside school)	makes connections within and between various contexts with limited effectiveness	makes connections within and between various contexts with some effectiveness	makes connections within and between various contexts with considerable effectiveness	makes connections within and between various contexts with a high degree of effectiveness

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FIGURE 12.8 Example of a checklist to assess a student's use of critical-thinking dispositions throughout a teaching unit.

Individual Student's Critical-Thinking Disposition Record						
Student's name:					Class period:	Dates:
Subject/unit:	U.S. History/Unit III. Beginning a Government, 1780–1800					
Critical-thinking dispositions	Assignment/activity					
	Class discussion of the Articles of the Confederation	Essay discussing arguments for and against ratification of the Constitution	Scrapbook collecting and analyzing events reported in the newspaper using concepts from the Constitution	Teams debate the issue, "Have political parties made the United States government better?"	Essay evaluating Washington as president	
1. Seeks statements of the main point or question	✓	—	✓	✓	NA	
2. Looks for explanations and reasons	✓	✓	✓	✓	✓	
3. Uses and cites credible sources	—	✓	—	✓	—	
4. Keeps to the main and relevant point(s)	—	—	NA	✓	✓	
5. Looks for alternatives	—	—	NA	—	NA	
6. Open-minded	✓	✓	✓	NA	—	
7. Takes and changes a position on an issue with good reason(s)	✓	✓	NA	✓	—	
8. Seeks to be accurate and precise in statements and work	NA	—	✓	✓	—	
9. Sensitive to the feelings, levels of knowledge of others	✓	NA	NA	—	NA	

develop his critical thinking, for example by helping him to develop the habit of always looking for alternatives.

Rating Scales A simple rating scale is a device to record your judgments of the quality level of a

student's dispositions toward each critical-thinking behavior. A rating scale usually has a line with points on it that range from poor quality to excellent quality. Usually, four or five quality points are further defined by describing what the behavior looks like at each point. These descriptions are

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FIGURE 12.9 Sample rating scale assessing the quality of some of a student's dispositions toward critical thinking that a teacher might observe as the student completes an assignment

Rating Scale for Critical Thinking Dispositions			
Student's name: Assignment:	Date:		
1. Did the student consider different points of view?			
0	1	2	3
Acts as if own point of view is accepted by everyone	Aware that own point of view is not accepted by everyone	Shows awareness that others have legitimate points of view that differ from own	Actively looks for and encourages others to express points of view different from or opposing own
2. How did the student treat others' points of view?			
0	1	2	3
Acts in a way that avoids or discourages others' points of view	Shows some attention to others' points of view	Makes a serious effort to consider others' points of view, but is not consistently objective or rational	Attends seriously to others' points of view and consistently reviews them objectively and rationally
3. Did the student communicate well with others who had less knowledge or ability?			
0	1	2	3
Cannot work or communicate with others who have less knowledge or ability	Attempts to work or communicate with others who have less knowledge or ability, but is less than adequate in doing so	Works and communicates adequately with others who have less knowledge or ability	Works and communicates excellently with others who have less knowledge or ability
4. Was the student sensitive to the feelings of others with less knowledge or ability?			
0	1	2	3
Acts apathetically or cruelly toward others who have less knowledge and ability	Does the minimum to help or encourage respect for the feelings of others who have less knowledge and ability	Offers good encouragement and respect for the feelings of others who have less knowledge and ability	Actively seeks to bolster and increase respect for the feelings of others who have less knowledge and ability

called *anchors*. Figure 12.9 is an example of some of the dispositions toward critical thinking that a teacher might observe as a student completes an assignment. While this tool is laid out as a rating scale, its anchor descriptions are detailed enough that it really functions as a rubric. (See Chapter 13 for a description of the difference between rating scales and rubrics.)

In this example, each item's scale shows the degree to which a student is disposed toward using a particular critical-thinking habit. The numerical ratings on the scale are anchored by descriptions of specific and observable behaviors. Over time, you can observe the student with respect to these habits. Then, at the end of the period, you use the rating scale to assess the student's disposition on each habit.

Finally, if students are to learn to be disposed toward using critical thinking in their daily activities, you should teach students critical-thinking skills. Assess both critical-thinking skills and

dispositions continuously throughout the term or year.

READING SKILLS

Reading skills involve thinking, too. Three strategies for assessing reading skills are presented.

Traditional Procedure Having students read material in a subject area and answer questions based on that material is a desirable way to assess reading skills. To develop such assessments, select the reading materials carefully to represent the kind of material students should be able to read. Rewrite the reading material if needed so that the interpretive questions can be answered primarily on the basis of the material alone. Finally, phrase the questions in a way that does not require a student to have more background or special information than you deem appropriate for the level of students and subject matter at hand. Follow these steps:

C R I T I C A L T H I N K I N G R U B R I C f o r P B L

(for grades 6-12)

<i>Critical Thinking Opportunity at Phases of a Project</i>	Below Standard	Approaching Standard	At Standard	Above Standard ✓
<p><i>Launching the Project:</i></p> <p>Analyze Driving Question and Begin Inquiry</p>	<ul style="list-style-type: none"> sees only superficial aspects of, or one point of view on, the Driving Question 	<ul style="list-style-type: none"> identifies some central aspects of the Driving Question, but may not see complexities or consider various points of view asks some follow-up questions about the topic or the wants and needs of the audience or users of a product, but does not dig deep 	<ul style="list-style-type: none"> shows understanding of central aspects of the Driving Question by identifying in detail what needs to be known to answer it and considering various possible points of view on it asks follow-up questions that focus or broaden inquiry, as appropriate asks follow-up questions to gain understanding of the wants and needs of audience or product users 	
<p><i>Building Knowledge, Understanding, and Skills:</i></p> <p>Gather and Evaluate Information</p>	<ul style="list-style-type: none"> is unable to integrate information to address the Driving Question; gathers too little, too much, or irrelevant information, or from too few sources accepts information at face value (does not evaluate its quality) 	<ul style="list-style-type: none"> attempts to integrate information to address the Driving Question, but it may be too little, too much, or gathered from too few sources; some of it may not be relevant understands that the quality of information should be considered, but does not do so thoroughly 	<ul style="list-style-type: none"> integrates relevant and sufficient information to address the Driving Question, gathered from multiple and varied sources thoroughly assesses the quality of information (considers usefulness, accuracy and credibility; distinguishes fact vs. opinion; recognizes bias) 	
<p><i>Developing and Revising Ideas and Products:</i></p> <p>Use Evidence and Criteria</p>	<ul style="list-style-type: none"> accepts arguments for possible answers to the Driving Question without questioning whether reasoning is valid uses evidence without considering how strong it is relies on “gut feeling” to evaluate and revise ideas, product prototypes or problem solutions (does not use criteria) 	<ul style="list-style-type: none"> recognizes the need for valid reasoning and strong evidence, but does not evaluate it carefully when developing answers to the Driving Question evaluates and revises ideas, product prototypes or problem solutions based on incomplete or invalid criteria 	<ul style="list-style-type: none"> evaluates arguments for possible answers to the Driving Question by assessing whether reasoning is valid and evidence is relevant and sufficient justifies choice of criteria used to evaluate ideas, product prototypes or problem solutions revises inadequate drafts, designs or solutions and explains why they will better meet evaluation criteria 	
<p><i>Presenting Products and Answers to Driving Question:</i></p> <p>Justify Choices, Consider Alternatives & Implications</p>	<ul style="list-style-type: none"> chooses one presentation medium without considering advantages and disadvantages of using other mediums to present a particular topic or idea cannot give valid reasons or supporting evidence to defend choices made when answering the Driving Question or creating products does not consider alternative answers to the Driving Question, designs for products, or points of view is not able to explain important new understanding gained in the project 	<ul style="list-style-type: none"> considers the advantages and disadvantages of using different mediums to present a particular topic or idea, but not thoroughly explains choices made when answering the Driving Question or creating products, but some reasons are not valid or lack supporting evidence understands that there may be alternative answers to the Driving Question or designs for products, but does not consider them carefully can explain some things learned in the project, but is not entirely clear about new understanding 	<ul style="list-style-type: none"> evaluates the advantages and disadvantages of using different mediums to present a particular topic or idea justifies choices made when answering the Driving Question or creating products, by giving valid reasons with supporting evidence recognizes the limitations of an answer to the Driving Question or a product design (how it might not be complete, certain, or perfect) and considers alternative perspectives can clearly explain new understanding gained in the project and how it might transfer to other situations or contexts 	

Victoria School
 Sec 1 Geography
 Self Reflection Rubric

Name: _____ () Class: Sec 1 _____

Date: _____ Name of Teacher: _____

Criteria	Reflective Practitioner [5-4]	Aware Practitioner [3-2]	Reflection Novice [1-0]	Points
Clarity	The language is clear and expressive. The reader can create a mental picture of the situation being described. Abstract concepts are explained accurately.	Minor, infrequent lapses in clarity. Abstract concepts are explained fairly accurately.	There are frequent lapses in clarity. Concepts are either not discussed or are presented inaccurately.	___
Relevance	The reflections show tremendous thought and effort. The learning experience being reflected upon is relevant and meaningful to student and unit learning goals.	The reflections show some thought and effort. Student makes attempts to demonstrate relevance, but the relevance is unclear in reference to unit learning goals	The reflections show poor thought and effort. Most of the reflection is irrelevant to student and/or unit learning goals.	___
Analysis	The reflection moves beyond simple description of the experience to an analysis of how the experience contributed to student understanding of self, others, and/or course concepts.	The reflection demonstrates student attempts to analyze the experience to understanding of self, but analysis lacks depth.	Student makes attempts at applying the learning experience to understanding of self, others, and/or course concepts but fails to demonstrate depth of analysis.	___
Self-Criticism	The reflection demonstrates ability of the student to question their own biases, stereotypes, preconceptions, and/or assumptions and define new modes of thinking as a result.	The reflection demonstrates ability of the student to question their own biases, stereotypes, preconceptions. New modes of thinking not evident.	There is some attempt at self-criticism, but the self-reflection fails to demonstrate a new awareness of personal biases, etc.	___
				___/20

Teacher Comments:

Guidelines for Teacher-Generated Rubrics

- ✓ Determine how many levels of performance you wish to define (3, 4, 6 are most common)
- ✓ Write the standards for each level's proficiency. Identify words in the proficiency that state observable behaviors; use demonstrative verbs.

Suggested Verb List		
Expresses	Discusses	Selects
Uses	Clarifies	Interprets
Gathers	Adjusts	Represents
Identifies	Tells	Modifies
Demonstrates	Distinguishes	Varies
Analyzes	Imparts	Conceives
Supports	Organizes	Writes
Recognizes	Records	Corrects
Seeks	Gives	Calculates
Makes	Shares	Responds
Evaluates	Performs	Explores
Articulates	Estimates	Differentiates
Strives for	Combines	Plans
Establishes	Appraises	Detects
Finds	Prioritizes	Contrasts
Examines	Instigates	Perseveres
Self-Assesses	Pursues	Connects
Maintains	Predicts	Justifies
Monitors	Integrates	Cooperates
Develops	Devises	Structures
Assesses	Adapts	Adjusts
Acknowledges	Considers	List
Participates	Stays	Offers
Contributes	Shows	Inspects
Challenges	Synthesizes	Evokes
Helps	Utilizes	Questions
Creates	Solves	Proposes
Works	Anticipates	Operates
Applies	Searches	Defines
Employs	Invents	Demands
Exhibits	Incorporates	Initiates
Reflects	Produces	Justifies
Explains	Encourages	Displays
Describes	Practices	Takes
Constructs	Serves	Avoids
Revises	Keeps	Designs
Conducts	Controls	Engages

- ✓ Focus on presence of rather than absence of behaviors; avoid negatives.
Example: Begins work without setting appropriate goals *rather than* Does not set appropriate goals
- ✓ Be specific when identifying clear distinctions in behavior; avoid overusing adverbs and adjectives.
Example: Student uses information from a variety of sources; combines it in a way that makes sense *rather than* Student uses pertinent information from many different sources; combines it well in a way that makes sense