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# Assessment and Evaluation Practices in Teaching Circular Economy – ***Learn Forward***

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Caledonia – Campus Learning and Development Initiatives Hub

University of Helsinki

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*”The radical principle of pedagogy: Be interested in how your students learn!”*
*Niclas Sandström, 2019*


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*"If students are to learn desired outcomes in a reasonably effective manner, then the teacher's fundamental task is to get students to engage in learning activities that are likely to result in their achieving those outcomes…*

*…*

*It is helpful to remember that* ***what the student does is actually more important in determining what is learned than what the teacher does.***"

(Shuell 1986, 429)


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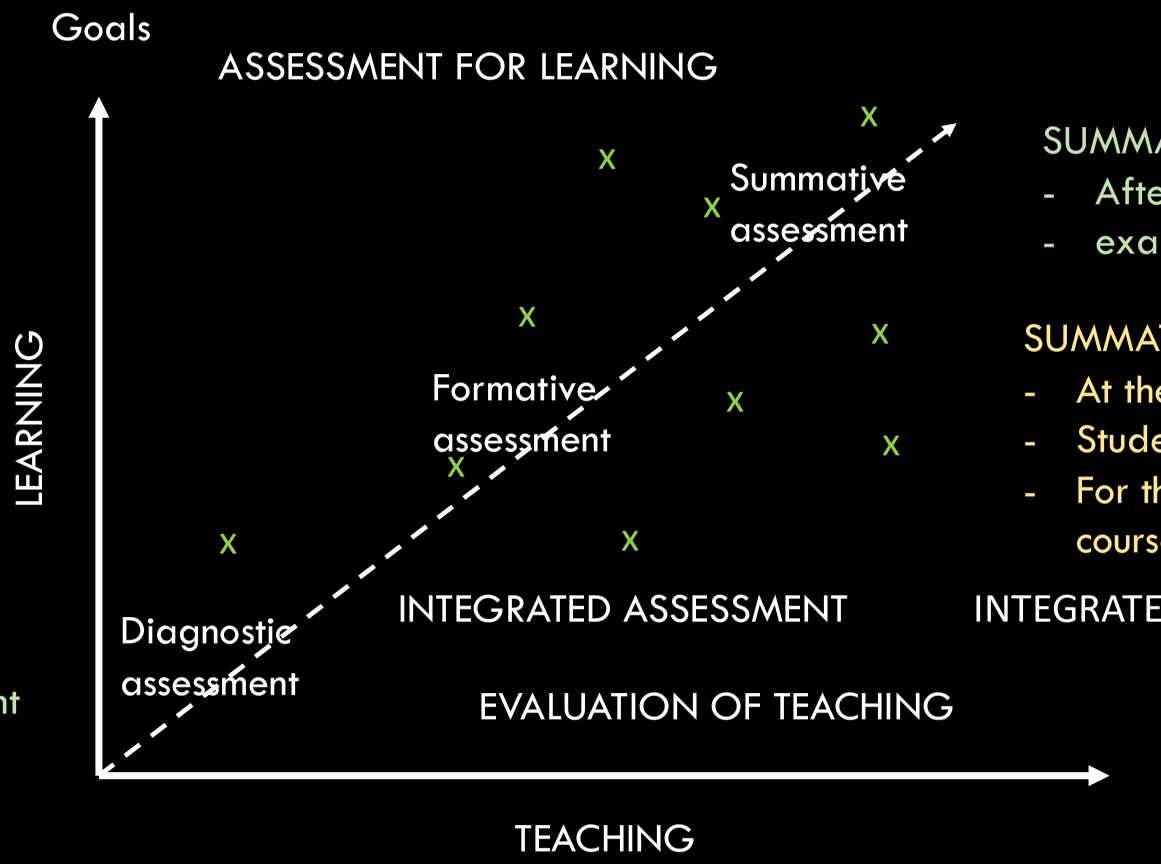
DIAGNOSTIC ASSESSMENT
- Before the learning process
- Self-assessment
- Tests

DIAGNOSTIC EVALUATION
- First meeting with students
- What worries in studies?

FORMATIVE ASSESSMENT
- During the learning process
- Self-assessment/Peer assessment
- Teacher feedback

FORMATIVE EVALUATION
- At the middle of the course
- Student feedback
- Engaging & empowering students




SUMMATIVE ASSESSMENT
- After the learning process
- exam

SUMMATIVE EVALUATION
- At the end of the course
- Student feedback
- For the development of the course



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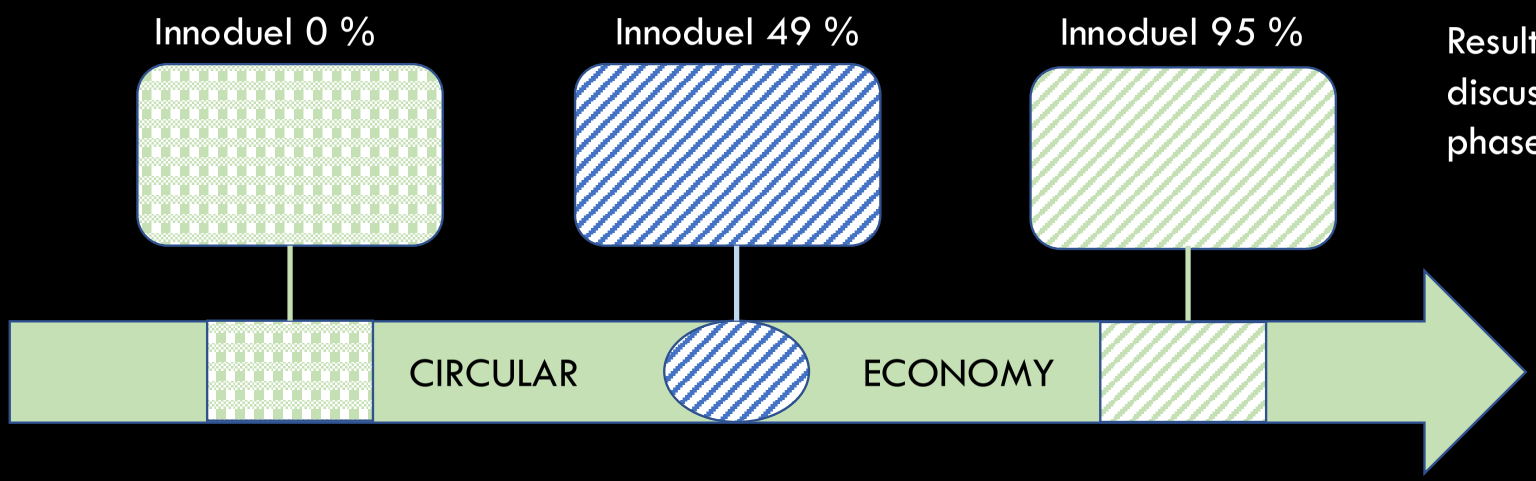
EVALUATION OF FOR

ASSESSMENT OF FOR

Learn Forward




Results will be discussed in each phase.



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*"Attempts to enhance teaching* ***need to address the system as a whole****, not simply add "good" components, such as a new curriculum or methods."*
(Biggs, 1996, 350)


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# Constructive alignment & evaluation of teaching (Biggs, 1996, Biggs & Tang, 2013)

- What you aim to teach?
  - Content, skills, attitudes? Facts, theories, models? Problem-solving, critical thinking, independence, self-regulation in learning, self-confidence…?
- How you support your students to learn?
  - Create open and trustful atmosphere, do not pretend to be someone else.
  - Describe a course as a learning process, design learning activities as steps forward.
- How you know that your students learn?
  - Be interested in!
  - Integrate assessment as a part of teaching.
- How you know that you have succeeded as a teacher?
  - Ask your students to tell how they feel? Share student feedback with students.


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# SOLO –taxonomy Structured observation of learning outcome

- How to assess the quality of learning – not how many bits students have got right?
- Complexity of learning as levels of understanding:
  1) PRESTRUCTURAL – misses the point, do not understand the question.
  2) UNISTRUCTURAL – some aspects of the task are covered.
  3) MULTISTRUCTURAL – several but unrelated aspects of the task are covered.
  4) RELATIONAL – aspects are integrated as a whole.
  5) EXTENDED ABSTRACT – a whole is generalised to new applications.

http://www.johnbiggs.com.au/academic/solo-taxonomy/


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# SOLO-taxonomy

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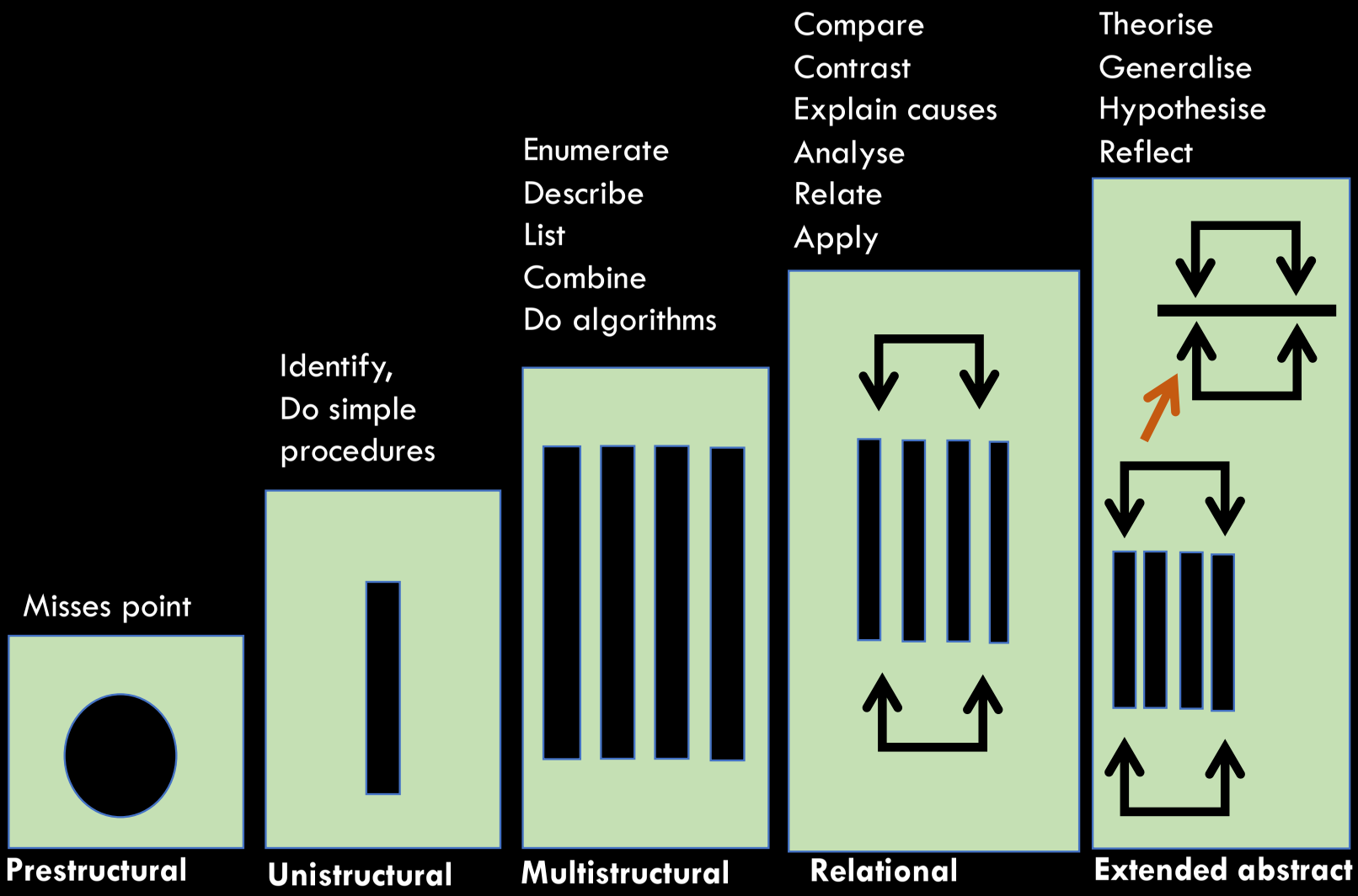
## CRITICAL THINKING

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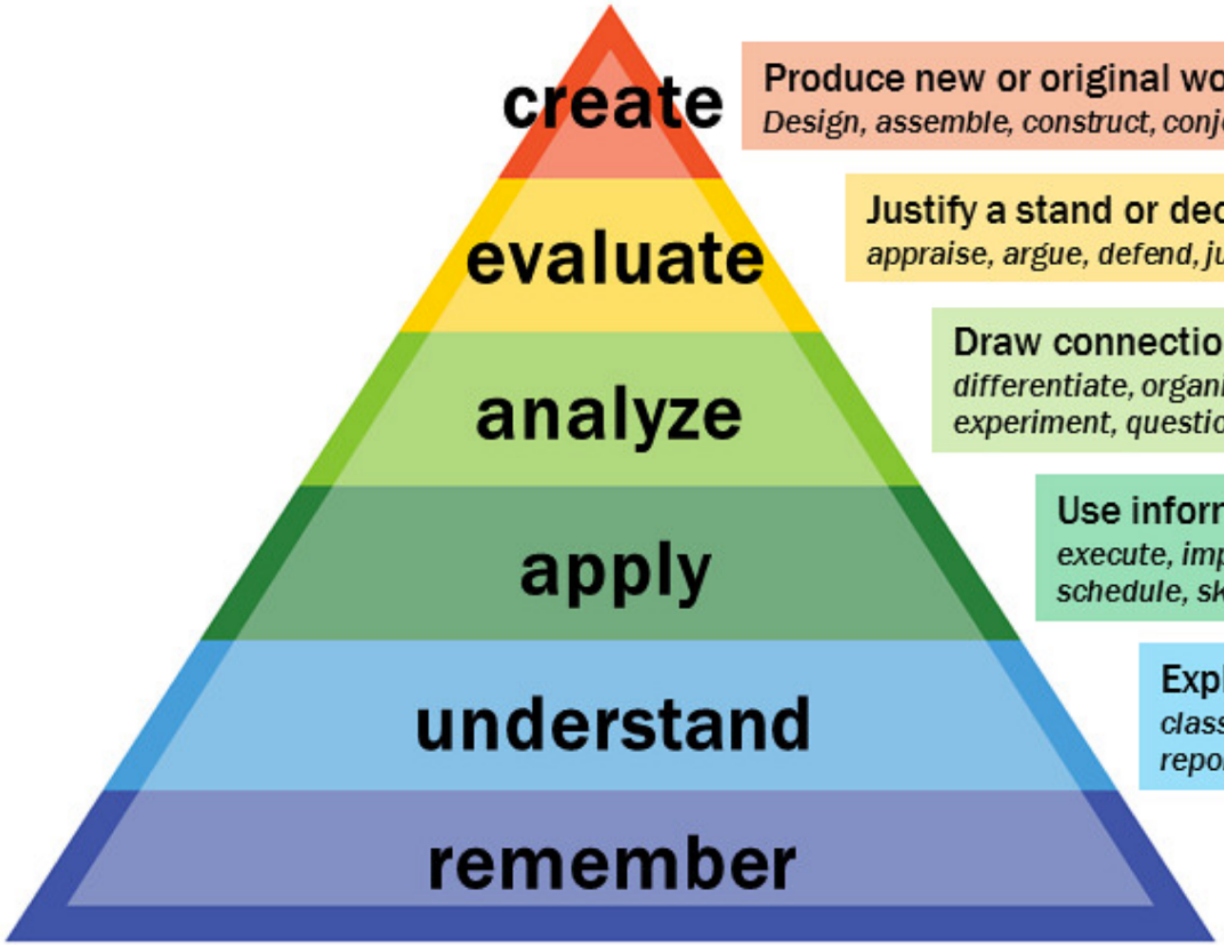
# Bloom's Taxonomy




**Produce new or original work**
*Design, assemble, construct, conjecture, develop, formulate, author, investigate*

**Justify a stand or decision**
*appraise, argue, defend, judge, select, support, value, critique, weigh*

**Draw connections among ideas**
*differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test*

**Use information in new situations**
*execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch*

**Explain ideas or concepts**
*classify, describe, discuss, explain, identify, locate, recognize, report, select, translate*

**Recall facts and basic concepts**
*define, duplicate, list, memorize, repeat, state*

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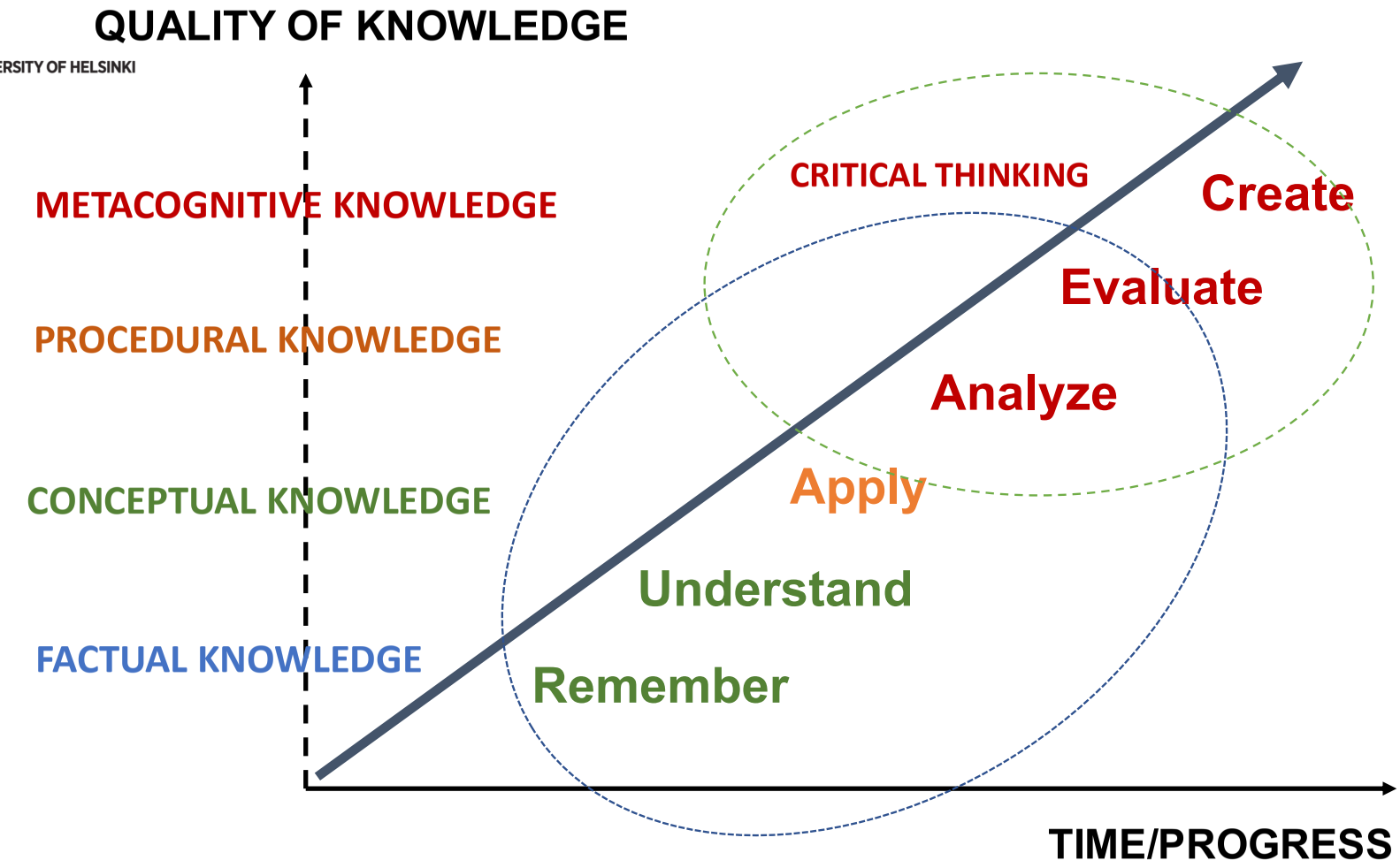


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How you share with your students what is the bottom line of acceptable performance?


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# Level of acceptable performance



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# How to create a rubric for assessing learning outcomes?

| Criteria | Beginning | Developing | Accomplished | Exemplary |
|---|---|---|---|---|
| Stated objective or performance | Description of identifiable performance characteristics reflecting the beginning level of performance. | Description of identifiable performance characteristics reflecting development and movement toward mastery performance. | Description of identifiable performance characteristics reflecting competent performance. | Description of identifiable performance characteristics reflecting the expertise and highest level of performance. |
| Write your objective here | Description | Description | Description | Description |


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# How to score a rubric?

What is the bottom line of accepted performance?

(1) Poor; (2) Good; (3) Excellent

**(0) Fail;** (1) Passable; (2) Satisfactory; (3) Good; (4) Very Good; (5) Excellent

(1) Beginning; (2)) Developing; (3) Accomplished; (4) Exemplary

**(0) Unacceptable;** (1) Developing; (2) Acceptable; (3) Exemplary

**(0) Does not meet standard;** (1) Approaches standard; (2) Meets standard; (3) Exceeds standard


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# Rubric is a tool for sharing criteria

- Any tool developed for effective teaching becomes harmful if it is taken away from the classroom context.
- Students and teachers should share openly their conceptions concerning criteria on a continuous basis for constructing and modifying rubrics.
- Iterative process: Development of a rubric is based on a continuous feedback from students and


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