

Rubrics for authentic assessment of critical thinking, creative thinking and problem solving  
 Go to [www.queensu.ca/qloa/assessment-tools/basics](http://www.queensu.ca/qloa/assessment-tools/basics) and follow the prompts



**Step 1:**  
Select the assignment type

Consider is the cognitive skill set that aligns most closely with what the task is intended to elicit.

Step 1 Step 2 Step 3 Step 4 Step 5

**What is it that the students are going to be doing? (Please select one)**

- Researching, planning, producing and reflecting (Creative Thinking)
- Designing, implementing and evaluating (Problem Solving)
- Investigating, transferring understanding and reflecting (Critical Thinking)



**Step 2:**  
Define the assignment topic

Describe the content and context that the learners will be engaging with.

Note: The description provided here will be incorporated into the rubric.

Step 1 Step 2 Step 3 Step 4 Step 5

**Complete the following statement**

This assignment is about... (E.g. creative writing; bridge failure; light waves; political campaigning)

research design

Continue



**Step 3:**  
Deciding on the assessment dimensions

Dimensions are the breakdown elements of the cognitive skill. For skill development, coverage of all dimensions is suggested.

Step 1 Step 2 Step 3 Step 4 Step 5

**What dimensions do you want to assess? (click all that apply)**

- Define problem
- Strategies
- Solution / hypothesis
- Evaluation
- Implementation
- Outcomes / implications



**Step 4:**  
Select the assessment components

Select the assessment components that are applicable to the assignment type and topic. Text enlarges when component has been selected.

Step 1 Step 2 Step 3 Step 4 Step 5

**What aspects of these components are relevant to your task?**  
 What aspects of the assessment dimensions do you want to assess? (select all that apply)

Define problem	Problem	Purpose			
Strategies	Strategies	Approaches	Procedures		
Solution / hypothesis	Design	Product	Solution	Structures	Hypothesis
Evaluation	Impacts	Contexts	Logical arguments	Feasibility issues	Confounds / sources of error



**Step 5:**  
Edit rubric scaffold to semantic preferences

The rubric app auto-fills from the choices selected. The edit function allows for fine tuning of language. The levels displayed (developing, accomplished or advanced) are dependent on the year group identified.

Assignment: "Research project"  
 \*intended for assessment in Psychology department for Third Year (Junior) students.

Problem Solving	Developing	Accomplished	Advanced
Define problem	Explains the purpose as related to Research project	Analyzes purpose, contextually appropriate to Research project	Evaluates the contextually diverse nature of the purpose applied to Research project
Strategies	Uses a single strategies and approaches appropriate to finding a solution	Incorporates multiple strategies and approaches to find a solution	Adapts strategies and approaches to allow for complexities when finding a solution.
Solution / hypothesis	Presents satisfactory design and hypothesis addressing the problem	Presents coherent design and hypothesis tailored to the problem	Presents elegant design and hypothesis comprehensively addressing the problem
Evaluation	Explains impacts, contexts, feasibility issues, and confounds / sources of error when addressing the problem	Assesses impacts, contexts, feasibility issues, and confounds / sources of error when solving the problem	Evaluates impacts, contexts, feasibility issues, and confounds / sources of error when solving the problem



**Finalize**

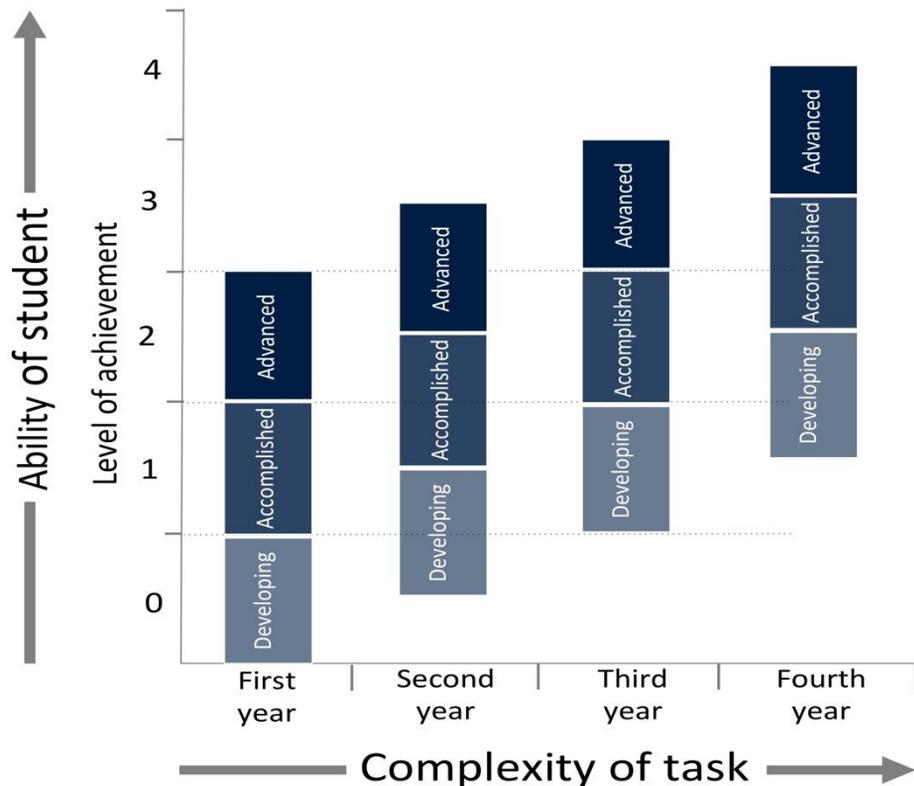
Once the rubric has been edited, finalizing adds the rubric to the database where it can be downloaded in .csv format, and found through the search tab

## Assessment levels

Levels for the rubric are labeled as developing, accomplished or advanced; these labels can be replaced to suit departmental or institutional needs.

The criterion appearing in the rubrics are dependent on the year group selected in first step of the application. For example, when “first year” is selected the rubric app displays criteria at level 0, 1, and 2.

For analytical marking, a number could be attached each level to derive a score for the assessment. For example developing =1, accomplished =2, advanced =3.



## Using rubrics to improve learning

These rubrics are intended as assessment tools, and to be used as teaching tools that support student learning and the development of higher-order thinking skills. To be used in this way, the learner needs to be aware of and engage in the assessment process.

### Key questions to consider:

- Will learners be active in the rubric development process?
- Will the assessment rubric be shared with the learners prior to the learning activity?
- Are the learners contributing to the assessment process (e.g. peer-evaluation/ self-evaluation)?
- Will there be an opportunity for learners to get feedback prior to the final submission date?

## Interrelated skills

