

# Teaching Evaluation Form

## Science & Mathematics

This form is part of a battery of tools developed by Prof. Ibrahim A. Halloun for ascertaining methods and means of learning and instruction of various disciplines. It is meant to evaluate science or mathematics teaching at all grade levels, while observing teachers in action in the classroom. The form is conceived in five dimensions, each consisting of a set of features to be evaluated on a 5-point ordinal scale as explained below. If necessary, the observer-evaluator may include additional comments at the end of every dimension.

It is not expected that every feature, in any given dimension, be covered in every single period of instructions. It often takes many periods to cover all features / dimensions presented in this form. Three columns have been included in the following table to cover three periods of instruction by the end of which most, if not all, features would be covered. More columns may be added to cover more periods of instruction.

For any information or feedback about this form, please visit: [www.halloun.net](http://www.halloun.net) or send an email to: [Prof.Halloun@idm.net.lb](mailto:Prof.Halloun@idm.net.lb).

### INSTRUCTIONS:

Some terms used in this form have specific meaning for the purpose of the target evaluation. In the following are some of these terms and their meanings.

*Conception* = Concept, principle, theorem or any other conceptual element covered in instruction.

*Lesson* = All that is learned and taught in the period of instruction during which evaluation is conducted.

*Materials* = The content of a lesson.

*Approach* = The way the teacher deals with the lesson.

*Discipline* = The branch of science or mathematics that is the object of instruction (e.g., any physical science or life science; arithmetic, algebra, or geometry in mathematics).

*Profile* = The comprehensive set of conceptions (or content knowledge), processes (or procedural knowledge), and dispositions that individual students are expected to develop by the end of the course.

*Learning cycle* = A systematic instructional approach following consistent, well-defined stages.

### SCORE:

A 5-point rating scale is used for ascertaining each feature. Please record one of the following scores in the corresponding cell. Each cell/column is reserved for a given period during which evaluation is taking place. New columns may be added for additional periods if necessary.

4 = Excellent

3 = Good

2 = Fair

1 = Poor

0 = Missing; the teacher did not cover this feature while s/he should have done so.

N/A = Not Applicable. Please indicate instead of "0", if you deem that the feature in question could not, or should not, be treated during the evaluation period.

DIMENSION	FEATURE	DATE	SCORE		
			Period 1	Period 2	Period 3
CONTENT / CONCEPTIONS	<b>1C</b> Every conception is adequately treated (what it represents and is useful for, and under what conditions, how related to other conceptions, etc.)				
	<b>2C</b> Coverage is balanced between individual conceptions and the big picture				
	<b>3C</b> Various materials are adequately sequenced and coherently related within and across lessons				
	<b>4C</b> Materials are treated helicoidally: critical elements are revisited with increasing complexity throughout consecutive lessons				
	<b>5C</b> Breadth (scope and amount) and depth (quality details) of covered materials are adequate and well-balanced				
	<b>6C</b> Materials are accurate and flawless				
	<b>Additional comments:</b>				
PROCESSES / COMPETENCES	<b>7P</b> Students develop their discourse proficiency with scientific / mathematical language and logic				
	<b>8P</b> Students develop comparison and classification norms and criteria, especially for pattern recognition and deployment				
	<b>9P</b> Students develop rules governing implementation and coordination of various operations				
	<b>10P</b> Students develop ways of scientific inquiry, especially for corroborating conceptions with due evidence and inference making, and of conjecturing, reasoning and proof in mathematics				
	<b>11P</b> Students develop critical thinking through various analysis modes and normative (criterial) evaluation				
	<b>12P</b> Students develop and follow systematic ways for problem solving				
	<b>13P</b> Students develop and follow systematic ways for model construction and deployment				
	<b>14P</b> Students are guided to deal with the same situation from different perspectives, and following different methods				
	<b>15P</b> Students are guided to extrapolate materials beyond their immediate domain, and connect the discipline to other fields				
	<b>Additional comments:</b>				
DISPOSITIONS	<b>16D</b> Students relate covered materials to their everyday life, and enhance their environmental awareness				
	<b>17D</b> Students develop positive learning attitudes, including self-confidence, perseverance, autonomy, and the realization that it takes more effort than talent to learn covered materials				
	<b>18D</b> Students appreciate objectivity, precision and concision, as well as coherence and consistency in thought, discourse and judgment, within and outside the discipline				
	<b>19D</b> Students work more on their creativity than on their capacity to assimilate and recall statements or reproduce operations				
	<b>20D</b> Students develop positive social attitudes, including open-mindedness, collaboration, respect and tolerance of others, equity, and bias rejection				
	<b>Additional comments:</b>				

DIMENSION / FEATURE		DATE	SCORE		
			Period 1	Period 2	Period 3
ASSESSMENT	<b>21A</b> Multiple forms of assessment are used (oral and written, tests and homework, open-ended and closed, peer discussions...)				
	<b>22A</b> Recall and productivity are adequately ascertained				
	<b>23A</b> Assessment promotes meaningful rather than rote learning				
	<b>24A</b> Assessment is comprehensive; all dimensions and aspects of student profile are adequately ascertained				
	<b>25A</b> Assessment is carried out to unearth student errors and difficulties, and promote self-evaluation and self-regulation				
	<b>Additional comments:</b>				
APPROACH	<b>26M</b> The teacher comes to class apparently well-prepared				
	<b>27M</b> The teacher begins the lesson with motivating questions / demonstrations that lay out the lesson objectives in ways to capture student interest and attention				
	<b>28M</b> The teacher ensures that students possess pre-requisites before starting with new material				
	<b>29M</b> The teacher allows students to express their ideas and discuss them with peers whenever necessary				
	<b>30M</b> Students are actively engaged in classroom activities, individually and in team work				
	<b>31M</b> Activities are diversified (traditional exercises, games, case study, projects, etc.)				
	<b>32M</b> An adequate diversity of resources and pedagogical aids (apparatus, films, CDs...) is used, along with the textbook				
	<b>33M</b> The teacher helps students develop, on their own, target conceptions and processes				
	<b>34M</b> Various learning styles (visual, auditory, kinesthetic...) are adequately accounted for				
	<b>35M</b> The approach is sufficiently flexible: The teacher readily and adequately deviates from a preconceived agenda to deal with unexpected learning opportunities and difficulties				
	<b>36M</b> The approach is interdisciplinary: The relationship to other disciplines is well-established				
	<b>37M</b> The approach follows a well-defined learning cycle				
	<b>38M</b> The approach is adapted to students' age and cognitive level				
	<b>39M</b> The teacher deviates from the textbook, if necessary, and points out irregularities therein, to respect the rigor of the discipline				
	<b>40M</b> The approach is aligned with well-established modern pedagogy				
<b>Additional comments:</b>					