

Dimension S1 "Quality of the Mathematics activity" and associated sub-dimensions.

Dimension	Sub-dimensions or indicators to be evaluated
1. Quality of the Mathematics activity	S1. Relevance, richness, and variability of learning situations S2. Variety of techniques and representations used in teaching. S3. Coherence, sufficiency, and articulation between arguments and mathematical activity. S4. Disciplinary rigor of the teacher's discourse S5. Articulation between mathematical activity and the real world. S6. Stereotyped mathematical content (situations, contexts, arguments, others) S7. Bias in the management of the teacher towards the students, such as bias in student participation and its distribution in mathematical discourses (e.g., assignment of responsibilities or tasks with a gender bias), should be minimized.

S1. Relevance, richness, and variability of learning situations: We aim to observe that the mathematical learning situations proposed:

- a)** Are appropriate for the specific context of the topic under study, the mathematical environment of the students, and are coherent with the didactic moment of the study (relevance).
- b)** Address central elements of the mathematical topic under study and create opportunities for students to give meaning to the mathematical knowledge under construction (richness).
- c)** Generate opportunities for the different didactic moments of the study to be experienced and encourage students to develop various mathematical skills (variability)."

Descriptor 1

The learning situations are not relevant in the context of the subject under study, or to the mathematical environment of the students.

Fulfills only part of a) or none.

Descriptor 2

The learning situations are pertinent in the context of the subject under study, the mathematical environment of the students and the didactic moment that is being lived.

They address central elements of the mathematical subject; however, they do not allow students to give meaning to knowledge, they are monotonous, and they exclusively promote procedural skills.

Complies a) but not b)

Descriptor 3

The learning situations are pertinent in the context of the subject under study, the mathematical environment of the students and the didactic moment that is being lived.

They address central elements of the mathematical theme, allow students to give meaning to knowledge, but are not very varied, focusing only on some didactic moments and promoting only certain skills.

Complies a) and b) not c)

Descriptor 4

The learning situations are pertinent in the context of the subject under study, the mathematical environment of the students and the didactic moment that is being lived.

They address central elements of the mathematical theme, allow students to give meaning to knowledge, create opportunities for them to experience different didactic moments, and promote the development of different mathematical skills.

Complies a), b) and c)

S2. Variety of techniques and representations used in teaching.

We want to observe that the type of mathematical situation raised allows it to be addressed:

- a) In various ways by students
- b) With different representations
- c) Teacher promotes diversity in the classroom, analysing and recognizing its value.

Descriptor 1

The situations, as they are proposed, are very rigid and closed, making it difficult for the appearance of other techniques that are not the expected/imposed ones.

Descriptor 2

The situations raised allow them to be approached in different ways, favoring the appearance of different representations by the students. However, the teacher discourages such diversity from appearing. In case it appears, it does not recognize it and/or delegitimizes it.

Descriptor 3

The situations raised allow them to be addressed in various ways, favoring the appearance of different representations, by the students, but the teacher does not encourage such diversity to appear in the class. However, when it appears, he recognizes it and values it as an "alternative".

Descriptor 4

The situations raised allow them to be approached in different ways, favoring the appearance of different representations by the students. At the same time, the teacher encourages such diversity to appear in the class, to be analyzed and valued.

S3. Coherence, sufficiency and articulation between arguments and mathematical activity

We want to observe that there is coherence between the argumentation and justification of the activity that takes place in the classroom. As well as connections of said arguments with other previously studied arguments. This indicator seeks to analyze the participation of students in the development and management of arguments and the mathematical activity by the teacher.

- a) He is concerned that the arguments are pertinent and sufficient with what is being done (coherence) and he is concerned that these arguments make it possible to understand/justify the mathematical activity that is being carried out (sufficiency).
- b) It is concerned with relating the argumentative discourse with previously studied mathematical knowledge (articulation).
- c) It is concerned that students participate in the elaboration and discussion of said arguments (participation)

Descriptor 1

The mathematical activity that is carried out focuses almost exclusively on the practical aspect, devoid of arguments that justify it.

Descriptor 2

It has major inconsistencies.

Descriptor 3

Coherence, but little articulation.

Descriptor 4

Coherence, but with important gaps at the articulation level.

It gives space and encourages participation, but student participation is not achieved.

Descriptor 5

Coherence, articulation and sufficiency.

S4. Disciplinary rigor of the teacher's discourse

We want to observe that the teacher's mathematical behavior in the classroom is free of inaccuracies and/or mathematical errors.

- a) The mathematical behaviour of the teacher is presented is accurate and free of errors.

Descriptor 1

The teacher's mathematical behavior is careless and regularly presents inaccuracies and/or errors.

Descriptor 2

The teacher's mathematical behavior presents certain inaccuracies and/or mathematical errors.

Such inaccuracies and/or errors are not corrected.

Descriptor 3

The teacher's mathematical behavior takes care to be precise and not make mathematical errors in their actions.

However, sporadically inaccuracies and/or minor errors appear, which are corrected.

Descriptor 4

The teacher's actions are precise and free of mathematical errors.

S5. Articulation between mathematical activity and the real world

It is wanted to observe that the mathematical activity is related to problematic situations of the real world or of other disciplines and in this way it appears useful and functional to the environment of the students.

- a) The teacher poses problematic situations using real, close and relevant contexts during the study.
- b) These situations are part of the mathematical activity that students must develop and learn.

Descriptor 1	Descriptor 2	Descriptor 3	Descriptor 4
<p>The teacher does not incorporate problems from the real world and/or from other disciplines in the development of mathematical activities.</p>	<p>The teacher uses situations, examples or applications from the real world and/or from other disciplines in his speech. However, such situations are not pertinent or relevant to the development of mathematical content.</p>	<p>The teacher raises problematic situations of the real world and/or of other disciplines that are useful and functional to the environment of the students. However, these situations appear, a posteriori, as applications of mathematical content in isolation.</p>	<p>The teacher raises problematic situations of the real world and/or of other disciplines that are useful and functional to the environment of the students.</p> <p>Said problematic situation is generating the mathematical activity and it is not a simple application.</p>

S6. Stereotyped mathematical content (situations, contexts, arguments, others)

We want to observe the situations, arguments and contexts related to the adaptation to socially accepted gender roles and activities and the dichotomies based on the gender variable (women take care of the children, cook; men work outside the home).

Descriptor 1	Descriptor 2	Descriptor 3	Descriptor 4
<p>The teacher habitually uses situations, contexts and/or arguments, related to the mathematical activity, with gender biases.</p>	<p>The teacher allows situations, contexts and/or arguments to appear on the part of the students with a gender bias</p> <p>I</p> <p>He does not make comments regarding stereotypes that emerge in the contexts of mathematical activity.</p>	<p>The teacher is concerned that the situations, contexts and/or arguments that he/she presents do not have gender stereotypes.</p>	<p>The teacher is concerned that the situations, contexts and/or arguments used in the mathematical activity do not present gender or other stereotypes.</p> <p>In addition, it intervenes proactively and explicitly encourages the generation of gender stereotypes among students.</p>

S7. Participation of students in the construction of mathematical discourse without gender bias.

We want to observe the management of the teacher towards the students in regards to the construction of mathematical discourse without gender bias.

Descriptor 1

The teacher does not promote the participation of their students in the construction of mathematical discourse, or the contributions of the students are very limited.

Descriptor 2

The teacher tries to get their students to participate in a way in the construction of mathematical discourse, but this only happens with a couple of students, who are always the same.

Descriptor 3

The teacher encourages their students to participate in a relevant way in the construction of mathematical discourse, but does so with a gender bias.

Descriptor 4

The teacher encourages their students to participate in a relevant way in the construction of mathematical discourse, and does so without gender bias.

Dimension S2 “Opportunities for mathematical learning of each and every student without gender or other biases” and associated sub-dimensions.

Dimension	Sub-dimensions or indicators to be evaluated
2. Opportunities for all students to learn mathematics, without gender or other biases	S8. Access to the meaning and purpose of activities without gender or other biases. S9. Regulation between the explicit and the implicit. S10. Socialization of mathematical knowledge under construction without gender or other biases. S11. Opportunities for participation and appropriation of evaluation criteria without gender or other biases.

S8. Access to the meaning and purpose of the activities without gender or other biases

This subdimension seeks to investigate how the teacher, and/or the instructions and suggestions of the resources used in the classroom, contribute to the students achieving a degree of identification of the mathematical objects involved in the structuring problems, as well as the way in which students guide their mathematical activities to contribute to the construction of mathematical knowledge in the classroom, to what extent they display initiatives to try to solve the problems posed.

Descriptor 1

The teacher does not guide or direct, imposing an instruction on how to solve a problem without leaving space for the students. This leads to students not achieving a degree of identification or sense of the mathematical objects involved in structuring problems.

Descriptor 2

The teacher guides and/or provides feedback to certain students, in a biased way, so that they achieve a degree of identification of the mathematical objects involved in structuring problems. Or, there are attempts, but when no response is received, an instruction is imposed by the teacher without giving space to the students.

Descriptor 3

The teacher guides and/or provides feedback to the students so that they achieve a degree of identification of the mathematical objects involved in structuring problems, through their own (student's) initiatives.

S9. Regulation between the explicit and the implicit

We want to observe if the teacher manages to make explicit elements of the mathematical activities that their students are developing in the classroom, and to promote the transition from the implicit to the explicit. At the same time, it is ensured that the passage from the explicit to the implicit of these aspects of mathematical work is an agreement known to all. (Didactic sensitivity)

Descriptor 1

The teacher does not meet the needs of the students and fails to explain elements of the mathematical activities they are developing. Nor does it ensure the passage from the explicit to the implicit in aspects of mathematical work.

Descriptor 2

The teacher is rarely sensitive to the needs of the students and manages to partially explain elements of the mathematical activities they are developing, promoting the elicitation of these aspects by the students.

Descriptor 3

The teacher is sensitive to the needs of the students who require it and manages to explain elements of the mathematical activities they are developing, promoting the elicitation of these aspects by the students. At the same time, it ensures that the passage from the explicit to the implicit in aspects of mathematical work is an agreement known to all.

S10. Socialization of mathematical knowledge under construction without gender or other biases

We want to observe how the teacher stimulates the socialization of the strategies and mathematical knowledge that the students have used to respond to the proposed activities, safeguarding the adequacy and relevance of said strategies. (How the teacher takes what is produced and how he creates spaces to share with the class, how he encourages students to value the achievements of their peers and give new meaning to their own productions.)

Descriptor 1

The teacher rarely takes into account the productions of the students in the class to carry out a collective mathematical construction and promotes few spaces for socialization in the class.

The willingness of the students to carry out the proposed work is valued, but it is done with gender or other biases.

Descriptor 2

The teacher rarely takes into account the productions of the students in the class to carry out a collective mathematical construction and promotes few spaces for socialization in the class.

The willingness of the students to carry out the proposed work is assessed, without gender or other biases.

Descriptor 3

The teacher takes into account the productions of the students in the class to carry out a collective mathematical construction, creating spaces for socialization. However, it is done with a gender or other bias.

Descriptor 4

The teacher considers the productions of the students in the class to carry out a collective mathematical construction, creating spaces for socialization without gender or other biases.

S11. Opportunities for participation and appropriation of the evaluation criteria without gender or other biases

We want to observe if the teacher gives space to situations in which the performance of the students in the different activities, they carry out can be evaluated, explaining those essential elements of their evaluation criteria or those agreed upon in the institution and with the students.

Descriptor 1

The teacher promotes few spaces or situations in which the performance of the students in the different activities they carry out can be evaluated.

Descriptor 2

The teacher promotes spaces or situations in which the performance of the students in the different activities they carry out can be evaluated, specifying those essential elements of their evaluation criteria or those agreed upon in the institution and with the students. However, it does so with gender or other biases.

Descriptor 3

The teacher promotes spaces or situations in which the performance of the students in the different activities they carry out can be evaluated, specifying those essential elements of their evaluation criteria or those agreed upon in the institution and with the students, and does so without bias. gender or otherwise.

Dimension S3 "Management of transversal aspects of mathematical activity and socio-emotional support in the classroom" and associated sub-dimensions.

Dimension	Sub-dimensions or indicators to be evaluated
<p>3. Management and socio-emotional support within the mathematical activity in the classroom.</p>	<p>S12. Distribution of inclusive responsibilities without gender bias in the teaching and learning process.</p> <p>S13. Management of the rhythm of the teaching and learning process, appropriate to the needs of the students.</p> <p>S14. Use of time focused on teaching and learning tasks.</p> <p>S15. Appropriate management of disruptions and conflicts.</p> <p>S16. Socio-emotional climate that motivates, unites, and supports students in their learning tasks without gender or other biases.</p>

S12. Distribution of responsibilities inclusive and without gender bias in the teaching-learning process

This dimension seeks to investigate how the teacher distributes responsibilities in the classroom in an inclusive manner and without gender bias in the teaching-learning process.

(e.g.: it allows participation and/or assignment of responsibilities or tasks in a biased way. Women distribute the math guides, collect, or order the material, take care of the course for a moment; men make a public demonstration, perform tasks involving force, etc.)

Descriptor 1

The teacher allows participation, assignment of responsibilities or tasks that have explicit gender biases. In addition, it establishes or reinforces said distribution in the discourse.

Descriptor 2

The teacher allows the participation and/or assignment of responsibilities or tasks that have explicit gender biases. It does not refer to this allocation or distribution.

Descriptor 3

The teacher assigns responsibilities or allows students to participate without gender bias.

S13. Management and management of the rhythm of the teaching-learning process, appropriate to the needs of its students

We want to observe if the teacher manages to manage the times adapting to the different rhythms of the students and at the same time adapting adequately to the needs of their students

Descriptor 1

The teacher is not sensitive to the needs of the students who require it and fails to manage the class to suit the needs of the majority of their students.

Descriptor 2

The teacher is rarely sensitive to the needs of the students, and partially manages to adapt to the rhythms of the students, continuing with their normal rhythm.

Descriptor 3

The teacher is sensitive to diversity and meets the needs of the rhythms of most of the students and manages to adapt his own pace of work so that the class meets the objectives planned for the class.

S14. Proper management of disruptions and conflicts

We want to observe how the teacher manages the disruptions and conflicts that emerge in the classroom and if, based on these disruptions, there is a loss of time in the mathematical activity.

Descriptor 1

The teacher does not handle interruptions or conflicts effectively or efficiently, causing the class to miss significant instructional time.

Descriptor 2

The teacher occasionally handles interruptions or conflicts effectively, but sometimes the interruptions cause the class to miss a small amount of instructional time.

Descriptor 3

The teacher handles interruptions or conflicts quickly and effectively so that interruption time is minimized.

S15. Use of time focused on the teaching/learning task.

We want to observe how the teacher manages the use of time in the mathematical activity. You want to observe how much of the time is devoted to mathematical activity.

Descriptor 1

The teacher dedicates a large part of the time (approximately half the time or more) to other activities that are not related to the mathematical activity.

Descriptor 2

The teacher occasionally takes time from the mathematical activity to other activities that are not related to the planned objectives of the class.

Descriptor 3

The teacher makes appropriate use of the time provided for the development of the planned objectives of the class. And if situations arise, it manages them in such a way that it does not affect the time in the mathematical activity.

S16. Socio-emotional climate that motivates, unites, and supports students in the face of learning tasks without gender biases.

You want to see if the teacher demonstrates respect by using any of the following types of behaviors: respectful language, listening to each other, using appropriate names, using a respectful tone of voice, and using traditional manners.

There are no disrespectful interactions between the teacher and students nor does the teacher allow such interactions between students.

Descriptor 1

The teacher creates a tense socio-emotional environment or climate that makes the students insecure, making it difficult for them to participate.

Descriptor 2

The teacher promotes a socio-emotional climate in which students feel confident and safe to participate in learning tasks, even taking risks of being wrong, but does so with gender or other biases.

Descriptor 3

The teacher promotes a socio-emotional climate in which students feel confident and safe to participate in learning tasks, even taking risks of being wrong, and does so without gender or other biases.