



# **FAMT&L**

## **FORMATIVE ASSESSMENT IN MATHEMATICS FOR TEACHING AND LEARNING**

Work Package 2 - Educational/learning needs analysis of teachers: teachers and students beliefs about formative assessment

**Deliverable D2.1– Instruments for collecting data and information**

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This document will outline the Instruments for collecting data and information (qualitative & quantitative).			

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**Executive summary**

This document will outline the Instruments for collecting data and information (qualitative & quantitative) about conceptions and beliefs on formative assessment in mathematics teaching and learning. The instruments will be presented in the 5 languages of the partner countries including English, in such a way that it could be adapted for use via translation in other European countries and beyond for future research purposes.

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## 1. About the document

This document outline the Instruments for collecting data and information (qualitative & quantitative) about the teachers' and the students' beliefs about the purpose and the use of formative assessment. These instruments are 2 questionnaires developed under the FAMT&L project:

1. Questionnaire for mathematics teachers' conceptions and beliefs on formative assessment in mathematics teaching and learning.
2. Questionnaire for students' conceptions and beliefs on formative assessment in mathematics teaching and learning.

The above mentioned questionnaires contain statements that examine the teachers' and students' beliefs about the purpose and the use of formative assessment, but also the practices used by teachers and students before, during or after the assessment. These instruments are presented in the 5 languages of the partner countries including English. In such a way it could be adapted for use via translation in other European countries and beyond for future research purposes.

The questionnaires in each country were translated on the basis of the common questionnaire developed in cooperation between all partners in English (the procedure is explained in detailed in the methodology of the Deliverable D2.1). However, small differentiations were done in some of the partners, in order the content of the questionnaire to be more aligned to the particularities of each country's educational system. These differences, which appear in the teachers' questionnaire in Italy and Swiss are explained below.

Actually, in the teachers questionnaires there were the following differences:

- There were only 31 statements to be completed.
- Question P6 asked teachers how much is important to evaluate each of the skills listed (1-not important, 4 – very important)
- Questions T1 to T10, T18, T20 and S1 to S4 were eliminated.
- Some questions were modified:
  - T11 as "*How much do you judge appropriate these assessment tools*"
  - T12 - T17: asked degree of agreement-disagreement)
  - T19: asked "*How much important...*"
  - T21 as "*How skilled do you think you are....*".
- Question R1: asked *how much important is to use these kind of feedback*
- Questions were eliminated.
- Question TR15 was given as an open question in other box.

This document includes also the Interview protocols about teachers' and students' conceptions and beliefs on formative assessment in mathematics teaching and learning.

Despite the fact these protocols were developed, the interviews were not conducted due to limitations that will be explained below.

A first limitation for not conducting the interviews is related to lack of time. The difficulties faced by all the partners in reaching an adequate number of participants for collecting the quantitative data caused the extension of the period for collecting these data. Thus, there was no time left for conducting the interviews. Furthermore, all the partners faced difficulties in getting access to the schools for administering the questionnaires, both to teachers and students. So it was impossible for the school to provide us extra time for conducting interviews with the students and the teachers. However, the qualitative data will be collected at a later stage. In fact, the interviews with the teachers will be done before the beginning of the training courses. We decided that it is more proper to interview the teachers before they enter the training session, in order to trace their initial beliefs and be able to examine again these beliefs after the end of the training. In this way we will be able to examine the effectiveness of our training model on whether it has the possibility to change the teachers' beliefs about the role and the use of formative assessment.

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## QUESTIONNAIRES FOR MATHEMATICS TEACHERS

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### a. IN ENGLISH

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**TITLE OF RESEARCH:** FORMATIVE ASSESSMENT OF MATHEMATICS TEACHING AND LEARNING (FAMT&L)

**RESEARCHERS:**

Dear colleagues

The purpose of our research is to study formative assessment in the teaching and learning of mathematics. The main goals of this project consist in:

- realizing a survey on the beliefs and practices of mathematics' teachers, concerning assessment in classroom;
- elaborating a training model including the use of the web repository tools and objects, useful to implement meaningful activities for mathematics' teacher training in secondary school.

Consequently, when we refer to “*assessment*” in the statements below, we refer to “*formative assessment*” in mathematics. In particular, formative assessment is part of the teaching-learning process and regulates it. It identifies, in an analytical way, the strengths and weaknesses of the students’ learning, in order to allow teachers to reflect on them and modify their teaching practices. It also promotes and fosters the learning of all students through differentiated teaching that ensures different rhythms and different teaching and learning strategies for each student. Furthermore, it involves the students in the analysis of their own errors/weaknesses and promotes their self-assessment and peer-assessment and thus their active participation in the teaching-learning process.

Therefore, we kindly ask you to fill out the questionnaire below honestly. Your contribution is valuable for our research. We ensure you that the answers you provide are confidential and will be only used for our research purposes. In the case you have any questions about the survey and need further clarifications, please contact us by e-mail, in the addresses provided at the top of this page.

We would like to thank you for your cooperation.

Best regards

The research team of the project

## **QUESTIONNAIRE**

### **PART A: Circle the proper choice for you or complete the following questions.**

Gender: a) Male      b) Female

Age: a) 20-30    b) 31-40    c) 41-50    d) 51-60    e) above 60

Education: Bachelor       Subject:

Master       Subject:

Doctoral       Subject:

How long have you been teaching mathematics? (indicate number of years)

Have you ever taught in school levels different than the current one?

- No

- Yes       How long and at which level?

Are you teaching in more than one schools?

- No

- Yes       Number of schools: \_\_\_\_\_

Are you part of (or working with) any association operating in the field of education?

- No

- Yes       Name of association:

Have you ever attended any in service training activities in assessment organized by public or private institutions?

- No

- Yes  Indicate training activities: \_\_\_\_\_

Have you read any articles on the topics of school assessment over the past three school years?

- No

- Yes

**PART B: Express your level of agreement/ disagreement for each of the following statements, about the purpose and functions of assessment in classroom.**

	Strongly Disagree	Rather Disagree	Rather Agree	Agree Strongly
1. Formative assessment establishes what students have learned in mathematics.	1	2	3	4
2. Formative assessment identifies the students' strong and weak abilities in mathematics.	1	2	3	4
3. Formative assessment identifies how students think in mathematics.	1	2	3	4
4. Formative assessment should be based on the pupils' outcomes in math rather than on the process.	1	2	3	4
5. Formative assessment should assess the students' ability to apply mathematics in unfamiliar everyday situations.	1	2	3	4
6. The different assessment methods aim to assess the students':				
a) Knowledge (memorization): the ability to memorize rules, axioms, theorems and other mathematical information	1	2	3	4
b) Comprehension (understanding): the ability to perceive mathematical meaning and to transform mathematical ideas from one form to another	1	2	3	4
c) Analysis: the ability to analyze information and to arrive to mathematical conclusions	1	2	3	4
d) Synthesis: the ability to organize mathematical ideas altogether to form a complete image that has meaning	1	2	3	4
7. The purpose of formative assessment is to help students overcome improve themselves in mathematics.	1	2	3	4
8. Formative assessment is subjective while summative assessment is objective.	1	2	3	4
9. According to the formative assessment results, I modify my instructional	1	2	3	4

plan according to my students' needs.					
10. Assessing my students' is very useful for me, because it gives me a chance to verify the validity of my work.	A	1	2	3	4

**PART C: Express your level of agreement/ disagreement for each of the following statements, about the use of different assessment techniques.**

	Strongly Disagree	Rather Disagree	Rather Agree	Strongly Agree
1. For formative assessment to be fair, it must be uniform through the use of standardized tasks.	1	2	3	4
2. Assessments on a particular topic of the mathematics curriculum (e.g. Pythagoras' theorem or Space geometry) should not influence evaluation on other topics (e.g. Solving equations or Algebra).	1	2	3	4
3. The professional development of classroom formative assessment practice requires the teachers to understand:				
a) The potential for the social construction of knowledge.	1	2	3	4
b) The potential to improve students' learning.	1	2	3	4
4. Sometimes it is necessary to assign lower evaluation grades, in order to encourage the student to make a greater effort.	1	2	3	4
5. The teacher shouldn't tent to make known to the students the used criteria of evaluation.	1	2	3	4
6. Different mathematical capabilities (e.g. Argumentation vs Computational capability) need different assessment practices or tools.	1	2	3	4
7. If a teacher does not commit itself in identifying the weakness and strengths of the students since the beginning of the academic year, then he/she cannot certainly fill in the students' gaps.	1	2	3	4
8. Formative assessment in mathematics is conducted primarily through informal observations.	1	2	3	4
9. Formative assessment is conducted primarily through oral questions posed to students while the mathematical content is being taught or reviewed.	1	2	3	4

10.	Formative assessment means giving ungraded mathematical assignments.	1	2	3	4
11.	To what degree do you agree that the following assessment techniques are appropriate to be used in the teaching of mathematics?				
a)	Unstructured observation	1	2	3	4
b)	Oral question-and-answer	1	2	3	4
c)	Structured observation	1	2	3	4
d)	Interview	1	2	3	4
e)	Performance test for each pupil	1	2	3	4
f)	Multiple choice and	1	2	3	4
g)	Matching questions	1	2	3	4
h)	Sentence Completion	1	2	3	4
12.	Some characteristics of assessment are embodied in a number of processes like:				
a)	sharing learning mathematical goals with students	1	2	3	4
b)	providing feedback that helps students to identify how to improve in mathematics	1	2	3	4
c)	both the teacher and the students reviewing and reflecting on their performance and progress	1	2	3	4
d)	students learning self-assessment techniques to discover mathematical abilities they need to further work on.	1	2	3	4
13.	Formative assessment is most effective when students have a clear idea of what the teachers expect of them.	1	2	3	4
14.	Teachers can improve the clarity of student learning targets by providing examples of both weak and stellar mathematical work.	1	2	3	4
15.	Providing clear expectations enables students to set realistic, attainable goals.	1	2	3	4
16.	Formative assessment is most effective when teachers offer feedback about the students' progress toward meeting particular learning targets.	1	2	3	4
17.	Formative assessment is most effective when teachers encourage student's self-assessment.	1	2	3	4
18.	High-quality formative assessment takes many forms, but it always:				

a) emphasizes to the quality rather than the quantity of student mathematical work.	1	2	3	4
b) focus giving advice and guidance over giving grades.	1	2	3	4
c) avoids comparing students in favor of enabling individual students to assess their own learning.	1	2	3	4
d) provides feedback that strengthens motivation and leads to improvement in mathematical knowledge and abilities.	1	2	3	4
19. To what degree do you agree that the following factors form your expectations about your students' future assessment?				
a) Previous certificates	1	2	3	4
b) Current scores	1	2	3	4
c) Participation in classroom activities	1	2	3	4
d) Personal behavior	1	2	3	4
e) Personal motivation to learn	1	2	3	4
f) Interest in classroom assignments	1	2	3	4
g) Interest in homework assignments	1	2	3	4
20. How often do the following factors affect your ability to apply different assessment methods?	Never	Rarely	Often	Always
a) The curriculum workload	1	2	3	4
b) The testing workload	1	2	3	4
c) The insufficient awareness of the different assessment methods	1	2	3	4
d) The large number of students in the class	1	2	3	4
e) The insufficient teaching time	1	2	3	4
f) Students' low achievement level	1	2	3	4
21. How skilled do you think you are in applying the following assessment techniques?	Not skilled	Less skilled	Skilled	Totally skilled
a) Classroom discussion	1	2	3	4
b) Classroom observation	1	2	3	4
c) Individual interviews with students	1	2	3	4
d) Assessing students' individual activities	1	2	3	4
e) Assessing students' group activities	1	2	3	4
f) Oral questioning	1	2	3	4
g) Assessing students' presentation skills	1	2	3	4
h) Students' self-assessment	1	2	3	4
i) Students' peer-assessment	1	2	3	4

**PART D: Express your level of agreement/ disagreement for each of the following statements, about the use the results of assessment.**

	Strongly Disagree	Rather Disagree	Rather Agree	Strongly Agree
1. Providing feedback to a student can be achieved by:				
a) providing a verbal statement about the quality of work itself (the reasons for the judgment and ways in which some of the shortcomings could be remedied).	1	2	3	4
b) showing students' specific misunderstandings or errors that frequently occur in a particular mathematical content area or a skill set.	1	2	3	4
c) showing students how they can adjust their approach to the task.	1	2	3	4
2. The results' of formative assessment should be:				
a) announced to the whole class.	1	2	3	4
b) discussed between parents and teacher.	1	2	3	4
c) discussed between the pupil and the teacher.	1	2	3	4
3. Formative assessment works best when the teacher avoids grading practices and comments that show students how their performance compares to other students	1	2	3	4
4. The quality of feedback increases when providing feedback right after a submission.	1	2	3	4
5. Feedback about the students' progress in learning mathematics gives hope and positive expectations for themselves.	1	2	3	4
6. Formative assessment during instruction provides feedback that help students correct their errors.	1	2	3	4
7. Formative assessment during instruction helps the teachers identify and implement instructional correctives.	1	2	3	4

**PART E: Express your level of agreement/ disagreement regarding the degree you consider that mathematical errors are derived from the following reasons.**

	Strongly Disagree	Rather Disagree	Rather Agree	Strongly Agree
1. Errors are associated with lack of knowledge.	1	2	3	4
2. Errors are associated with the text of the problem.	1	2	3	4
3. Errors are associated with the way the student studies and prepares himself/herself.	1	2	3	4
4. Errors are associated with student's attitude towards mathematics.	1	2	3	4
5. Errors are associated with the psychological situation of the student.	1	2	3	4
6. Errors are associated with inappropriate ways of teaching.	1	2	3	4
7. Errors are due to the limited capabilities of students.	1	2	3	4
8. Errors are due to wrong or incomplete knowledge about a concept taught previously.	1	2	3	4
9. Errors are due to previous correct knowledge which is not appropriate in a new situation.	1	2	3	4
10. Errors are due to a confusion of the model needed for completing a task with an already known model.	1	2	3	4
11. Errors are due to the students' tendency to fulfill their teacher's wishes without examining them.	1	2	3	4
12. Errors are due to the fact that an inappropriate question for the ability of the student is given.	1	2	3	4

**PART F: Express your level of agreement/ disagreement regarding the stakeholders involved in the assessment process.**

	Strongly Disagree	Rather Disagree	Rather Agree	Strongly Agree
1. Formative assessment provides a tangible product that the teacher can share with students and parents.	1	2	3	4
2. Formative assessment give the students the chance to assess themselves.	1	2	3	4
3. Students can develop a deeper understanding of their learning when they are given opportunities to discuss the	1	2	3	4

learning process with their teacher and their peers.				
4. While teachers provide feedback, they can encourage self-assessment by asking students questions that help them to focus on self-monitoring.	1	2	3	4

**PART G: Answer the questions about the teachers' training on issues of assessment and note ✓ where it is necessary.**

Given assessment workshops in the future, please indicate which topic(s) you would like to attend.	
1. Methods to assess students' achievement.	
2. Encourage students' participation in classroom activities.	
3. The application of different assessment methods.	
4. Analyzing assessment method results.	
5. Using assessment methods to provide students with feedback.	
6. Using assessment methods to improve students' abilities.	
7. Using assessment methods to develop teachers' abilities to teach effectively.	
8. Higher order questioning techniques.	
9. Use of misconceptions.	
10. Feedback as comments and not grades.	
11. Oral feedback.	
12. Sharing assessment criteria.	
13. Peer assessment.	
14. Students' self-assessment.	
15. Other topic (please indicate):	
16. I would not like to attend any assessment workshop.	

## b. IN GREEK

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### ΕΝΗΜΕΡΩΤΙΚΟ ΕΝΤΥΠΟ ΓΙΑ ΤΟ ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

**ΤΙΤΛΟΣ ΕΡΕΥΝΑΣ:** ΔΙΑΜΟΡΦΩΤΙΚΗ ΑΞΙΟΛΟΓΗΣΗ ΣΤΗ ΔΙΔΑΣΚΑΛΙΑ ΚΑΙ ΜΑΘΗΣΗ ΤΩΝ ΜΑΘΗΜΑΤΙΚΩΝ / FORMATIVE ASSESSMENT OF MATHEMATICS TEACHING AND LEARNING (FAMT&L)

#### **ΕΡΕΥΝΗΤΕΣ:**

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Αγαπητοί/ες συνάδελφοι

Ο σκοπός της έρευνάς μας είναι να εξετάσει τη διαμορφωτική αξιολόγηση στη διδασκαλία και τη μάθηση των μαθηματικών. Οι κύριοι στόχοι του προγράμματος είναι οι εξής:

- Διεξαγωγή έρευνας σχετικά με τις πεποιθήσεις και τις πρακτικές των καθηγητών των μαθηματικών, οι οποίες αφορούν στην αξιολόγηση στην τάξη.
- Επεξεργασία ενός μοντέλου κατάρτισης συμπεριλαμβανομένης της χρήσης ενός διαδικτυακού χώρου με εργαλεία και υλικό, τα οποία είναι χρήσιμα στην εφαρμογή σημαντικών δραστηριοτήτων για την κατάρτιση των εκπαιδευτικών των μαθηματικών στη δευτεροβάθμια εκπαίδευση.

Συνεπώς, ο όρος «αξιολόγηση» στις πιο κάτω δηλώσεις, αφορά στη «διαμορφωτική αξιολόγηση» στα μαθηματικά. Ειδικότερα, η διαμορφωτική αξιολόγηση αποτελεί μια διάσταση της διαδικασίας της διδασκαλίας και της μάθησης, η οποία ρυθμίζει τη διαδικασία αυτή. Συγκεκριμένα, προσδιορίζει με αναλυτικό τρόπο τις δυνατότητες και

τις αδυναμίες της μάθησης των μαθητών, προκειμένου να επιτρέψει στους εκπαιδευτικούς να κάνουν αναστοχασμό και να τροποποιήσουν τις διδακτικές τους πρακτικές. Επίσης, προωθεί και ενισχύει τη μάθηση όλων των μαθητών μέσω διαφοροποιημένης διδασκαλίας και διασφαλίζει διαφορετικούς ρυθμούς και διαφορετικές στρατηγικές διδασκαλίας και μάθησης για κάθε μαθητή. Επιπλέον, εμπλέκει τους μαθητές στην ανάλυση των λαθών/αδυναμιών τους και προωθεί την αυτό-αξιολόγηση και ετερο-αξιολόγησή τους και κατά συνέπεια την ενεργητική συμμετοχή τους στη διαδικασία διδασκαλίας-μάθησης.

Η βοήθεια που μας προσφέρετε είναι πολύτιμη, γι' αυτό παρακαλούμε όπως συμπληρώσετε με ειλικρίνεια το ερωτηματολόγιο που ακολουθεί. Σας διαβεβαιώνουμε ότι οι απαντήσεις που θα δώσετε είναι εμπιστευτικές και θα χρησιμοποιηθούν μόνο για τους σκοπούς της έρευνας. Για τυχόν ερωτήσεις για τη διεξαγωγή της έρευνας αλλά και οποιεσδήποτε διευκρινίσεις χρειαστείτε, επικοινωνήστε μαζί μας στα e-mail που βρίσκονται στο πάνω μέρος της σελίδας.

Σας ευχαριστούμε για τη συνεργασία.

Με εκτίμηση  
Η ερευνητική ομάδα του προγράμματος.

## **ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ**

**ΜΕΡΟΣ Α':** Βάλτε σε κύκλο ό,τι ισχύει στην περίπτωσή σας ή συμπληρώστε ό,τι σας ζητείται.

1. Φύλο: α) Άντρας β) Γυναίκα  
2. Ηλικία: α) 20-30 β) 31-40 γ) 41-50 δ) πάνω από 60

3. Εκπαίδευση: Πτυχίο  Θέμα:

1

Θέμα:

Μεταπτυχιακό

1

Θέμα:

• 8

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1

86

Διδακτορικό

1

Θέμα:

4. Πόσα χρόνια διδακτικής εμπειρίας έχετε στα μαθηματικά;

5. Έχετε διδάξει σε διαφορετικές τάξεις από αυτές που διδάσκετε φέτος;

- Ναι                  Για πόσο καιρό και σε ποιες τάξεις;

- Όχι

6. Διδάσκετε σε περισσότερα από ένα σχολείο;

- Ναι  Αριθμήστε τα σχολεία:

- Όχι

7. Είσαστε μέλος ή συνεργάζεστε με οποιαδήποτε οργάνωση που λειτουργεί στον τομέα της εκπαίδευσης;

- Ναι  Ονομάστε την οργάνωση:

- Όχι

8. Έχετε παρακολουθήσει κάποιο πρόγραμμα κατάρτισης σχετικά με την αξιολόγηση που διοργανώθηκε είτε από τα δημόσια ιδρύματα είτε από ιδιωτικά ίνστιτούτα;

- Ναι  Ονομάστε το πρόγραμμα:

- Όχι

9. Έχετε διαβάσει οποιαδήποτε άρθρα σχετικά με την αξιολόγηση στο σχολείο κατά τα τελευταία τρία χρόνια;

- Ναι

- Όχι

**ΜΕΡΟΣ Β': Να σημειώσετε σε ποιο βαθμό συμφωνείτε/διαφωνείτε με καθεμιά από τις πιο κάτω δηλώσεις, για το σκοπό και τις λειτουργίες της αξιολόγησης στην τάξη.**

	Διαφωνώ απόλλητα	Διαφωνώ	Συμφωνώ
1. Η αξιολόγηση καθορίζει τι έχουν μάθει οι μαθητές στα μαθηματικά.	1	2	3
2. Η αξιολόγηση προσδιορίζει τα δυνατά και αδύνατα σημεία των μαθητών στα μαθηματικά.	1	2	3
3. Η αξιολόγηση δείχνει τον τρόπο σκέψης των μαθητών στα μαθηματικά.	1	2	3

4. Η αξιολόγηση πρέπει να στηρίζεται στις απαντήσεις των μαθητών παρά στη διαδικασία που χρησιμοποιούν για να φτάσουν σε αυτές.	1	2	3
5. Η αξιολόγηση πρέπει να αξιολογεί την ικανότητα των μαθητών να εφαρμόζουν τα μαθηματικά σε άγνωστες, καθημερινές καταστάσεις.	1	2	3
6. Οι διαφορετικές μέθοδοι αξιολόγησης στοχεύουν να αξιολογήσουν τις πιο κάτω δεξιότητες των μαθητών:			
α) Γνώση (απομνημόνευση): Η ικανότητα μνήμης κανόνων, αξιωμάτων, θεωρημάτων και άλλων πληροφοριών στα μαθηματικά.	1	2	3
β) Κατανόηση: Η ικανότητα της αντίληψης του νοήματος και της μετατροπής των μαθηματικών ιδεών από μία μορφή σε άλλη.	1	2	3
γ) Ανάλυση: Η ικανότητα να αναλύονται πληροφορίες και να εξάγονται μαθηματικά συμπεράσματα.	1	2	3
δ) Σύνθεση: Η ικανότητα να οργανώνονται μαζί διάφορες μαθηματικές ιδέες για τη δόμηση μιας πληρέστερης εικόνας με νόημα για τις διάφορες μαθηματικές έννοιες.	1	2	3
7. Ο σκοπός της διαμορφωτική αξιολόγηση είναι να βοηθήσει τους μαθητές να βελτιωθούν στα μαθηματικά.	1	2	3
8. Η διαμορφωτική αξιολόγηση είναι υποκειμενική, ενώ η τελική αξιολόγηση είναι αντικειμενική.	1	2	3
9. Ανάλογα με τα αποτελέσματα της διαμορφωτικής αξιολόγησης, τροποποιώ το σχέδιο μαθήματος μου σύμφωνα με τις ανάγκες των μαθητών μου.	1	2	3
10. Η αξιολόγηση των μαθητών είναι πολύ χρήσιμη για μένα, διότι μου δίνει την ευκαιρία να αναγνωρίσω την αξία της δουλειάς μου.	1	2	3

**ΜΕΡΟΣ Γ': Να σημειώσετε σε ποιο βαθμό συμφωνείτε/διαφωνείτε με καθεμιά από τις πιο κάτω δηλώσεις, για τη χρήση διαφορετικών τεχνικών αξιολόγησης.**

	Διαφωνώ απόλλητα	Διαφωνώ	Συμφωνώ	Συμφωνώ απόλλητα
1. Για να είναι δίκαιη η διαμορφωτική αξιολόγηση, πρέπει να είναι ομοιόμορφη μέσα από τη χρήση τυποποιημένων ασκήσεων.	1	2	3	4
2. Η αξιολόγηση σε συγκεκριμένα θέματα ή μέρη του αναλυτικού προγράμματος των μαθηματικών (π.χ.	1	2	3	4

Πιθαγόρειο Θεώρημα ή Γεωμετρία του χώρου) <u>δεν</u> πρέπει να επηρεάζει την αξιολόγηση άλλων μαθηματικών θεμάτων (π.χ. Επίλυση εξισώσεων ή Άλγεβρα).				
3. Για την επαγγελματική ανάπτυξη των εκπαιδευτικών σε θέματα χρήσης τεχνικών διαμορφωτικής αξιολόγηση, πρέπει να γίνει κατανοητή:				
α) Η δυνατότητα για την κοινωνική κατασκευή της γνώσης.	1	2	3	4
β) Η δυνατότητα για βελτίωση της μάθησης των μαθητών.	1	2	3	4
4. Μερικές φορές είναι αναγκαίο να δίνονται χαμηλοί βαθμοί στους μαθητές, ώστε να ενθαρρύνονται να προσπαθήσουν περισσότερο.	1	2	3	4
5. Ο εκπαιδευτικός <u>δεν</u> πρέπει να γνωστοποιεί στους μαθητές τα κριτήρια που χρησιμοποιεί στην αξιολόγηση.	1	2	3	4
6. Διαφορετικές μαθηματικές ικανότητες (π.χ. Διατύπωση ισχυρισμών και εγκυροποίηση, Υπολογιστική ικανότητα κ.λπ.) χρειάζονται διαφορετικές πρακτικές και εργαλεία αξιολόγησης.	1	2	3	4
7. Αν ο/η εκπαιδευτικός δε δώσει έμφαση στην αναγνώριση των αδυναμιών και των δυνατοτήτων των μαθητών στα μαθηματικά από την αρχή του σχολικού έτους, τότε σίγουρα δε θα μπορέσει αργότερα να συμπληρώσει τα κενά τους.	1	2	3	4
8. Η διαμορφωτική αξιολόγηση στα μαθηματικά πραγματοποιείται κυρίως μέσω άτυπων παρατηρήσεων.	1	2	3	4
9. Η διαμορφωτική αξιολόγηση πραγματοποιείται κυρίως μέσω προφορικών ερωτήσεων που διατυπώνονται στους μαθητές κατά τη διδασκαλία ή την επανάληψη ενός μαθηματικού θέματος.	1	2	3	4
10. Διαμορφωτική αξιολόγηση σημαίνει να δίνεις εργασίες στα μαθηματικά, χωρίς απαραίτητα να βαθμολογούνται.	1	2	3	4
11. Σε ποιο βαθμό συμφωνείς ότι οι πιο κάτω τεχνικές αξιολόγησης είναι κατάλληλες για να χρησιμοποιηθούν στη διδασκαλία των μαθηματικών;				
α) Αδόμητη παρατήρηση (ελεύθερη - χωρίς άξονες)	1	2	3	4

β) Προφορική ερώτηση και απάντηση	1	2	3	4
γ) Δομημένη παρατίρηση	1	2	3	4
δ) Συνέντευξη	1	2	3	4
ε) Τεστ επιδόσεων για κάθε μαθητή	1	2	3	4
στ) Ασκήσεις πολλαπλής επιλογής	1	2	3	4
ζ) Ερωτήσεις αντιστοίχισης	1	2	3	4
η) Συμπλήρωση προτάσεων	1	2	3	4
	Λιαφωνώ απόλυτα	Λιαφωνώ	Συμφωνώ	Φωνωνώ απόλυτα
12. Μερικά χαρακτηριστικά της αξιολόγησης ενσωματώνονται σε ένα αριθμό διαδικασιών όπως:				
α) Η κοινοποίηση των μαθησιακών στόχων των μαθηματικών στους μαθητές.	1	2	3	4
β) Η παροχή ανατροφοδότησης που βοηθάει τους μαθητές να προσδιορίσουν πώς μπορεί να βελτιωθούν στα μαθηματικά.	1	2	3	4
γ) Ο δάσκαλος μαζί με τους μαθητές να αξιολογούν και να αναστοχάζονται για τις επιδόσεις και την πρόοδο των μαθητών.	1	2	3	4
δ) Οι μαθητές να μαθαίνουν τεχνικές αυτό-αξιολόγησης για να ανακαλύψουν τις μαθηματικές ικανότητες πάνω στις οποίες χρειάζεται να δουλέψουν περισσότερο.	1	2	3	4
13. Η διαμορφωτική αξιολόγηση είναι πιο αποτελεσματική όταν οι μαθητές έχουν ξεκάθαρη εικόνα για το τι αναμένει ο εκπαιδευτικός από αυτούς.	1	2	3	4
14. Οι εκπαιδευτικοί μπορούν να κάνουν πιο ξεκάθαρα τα μαθησιακά αποτελέσματα που αναμένουν από τους μαθητές, όταν παρέχουν παραδείγματα τόσο άρτιας αλλά και ελλιπούς μαθηματικής εργασίας.	1	2	3	4
15. Η παροχή σαφών προσδοκιών από τους εκπαιδευτικούς δίνει τη δυνατότητα στους μαθητές να θέσουν πιο ρεαλιστικούς και εφικτούς στόχους.	1	2	3	4
16. Η διαμορφωτική αξιολόγηση είναι πιο αποτελεσματική όταν οι εκπαιδευτικοί προσφέρουν ανατροφοδότηση σχετικά με την πρόοδο των μαθητών προς την επίτευξη συγκεκριμένων μαθησιακών στόχων.	1	2	3	4
17. Η διαμορφωτική αξιολόγηση είναι πιο αποτελεσματική όταν οι εκπαιδευτικούς ενθαρρύνουν την αυτό-αξιολόγηση των μαθητών.	1	2	3	4

18. Η υψηλής ποιότητας διαμορφωτική αξιολόγηση έχει πολλές μορφές, αλλά πάντα:				
α) δίνει έμφαση στην ποιότητα παρά στην ποσότητα της εργασίας του μαθητή.	1	2	3	4
β) εστιάζει στην παροχή συμβουλών και καθοδήγησης παρά στο να δίνει βαθμούς.	1	2	3	4
γ) αποφεύγει τη σύγκριση των μαθητών αλλά δίνει τη δυνατότητα στους μαθητές να αξιολογήσουν τη δική τους μάθηση.	1	2	3	4
δ) παρέχει ανατροφοδότηση, η οποία ενδυναμώνει τα κίνητρα μάθησης των μαθητών και οδηγεί στη βελτίωση της μαθηματικής γνώσης και ικανοτήτων τους.	1	2	3	4
19. Σε ποιο βαθμό οι πιο κάτω παράγοντες επηρεάζουν τις προσδοκίες σας για τη μελλοντική αξιολόγηση των μαθητών;				
α) Τα προηγούμενα δελτία προόδου	1	2	3	4
β) Η τρέχουσα βαθμολογία	1	2	3	4
γ) Η συμμετοχή σε δραστηριότητες εντός της τάξης	1	2	3	4
δ) Η προσωπική συμπεριφορά	1	2	3	4
ε) Τα προσωπικά κίνητρα μάθησης	1	2	3	4
στ) Το ενδιαφέρον για τις εργασίες που δίνονται στην τάξη	1	2	3	4
ζ) Το ενδιαφέρον για την κατ' οίκον εργασία	1	2	3	4

Ποτέ	Σπάνια	Συχνά	Πάντα
20. Πόσο συχνά σας επηρεάζουν οι πιο κάτω παράγοντες στο να εφαρμόσετε διαφορετικές μεθόδους αξιολόγησης;			
α) Ο μεγάλος φόρτος εργασίας του Αναλυτικού Προγράμματος Σπουδών των μαθηματικών	1	2	3
β) Ο μεγάλος φόρτος εργασίας που έχουν τα τεστ	1	2	3
γ) Η ανεπαρκής γνώση των διαφόρων μεθόδων αξιολόγησης	1	2	3
δ) Ο μεγάλος αριθμός των μαθητών στην τάξη	1	2	3
ε) Ο ανεπαρκής χρόνος διδασκαλίας	1	2	3
στ) Το χαμηλό μαθησιακό επίπεδο των μαθητών	1	2	3

21. Πόσο έμπειρο θεωρείτε τον εαυτό σας στη εφαρμογή των ακόλουθων τεχνικών αξιολόγησης;	Καθόλων έμπειρο	Λίγο έμπειρο	Άριθμος έμπειρο	Πολύ έμπειρο
α) Συζήτηση στην ολομέλεια της τάξης	1	2	3	4
β) Παρατήρηση της τάξης	1	2	3	4
γ) Ατομικές συνεντεύξεις με τους μαθητές	1	2	3	4
δ) Αξιολόγηση των ατομικών δραστηριοτήτων των μαθητών	1	2	3	4
ε) Αξιολόγηση των ομαδικών δραστηριοτήτων των μαθητών	1	2	3	4
στ) Προφορικές ερωτήσεις	1	2	3	4
ζ) Αξιολόγηση των δεξιοτήτων παρουσίασης των μαθητών	1	2	3	4
η) Αυτό-αξιολόγηση των μαθητών	1	2	3	4
θ) Ετερο-αξιολόγηση των μαθητών	1	2	3	4

**ΜΕΡΟΣ Δ': Να σημειώσετε σε ποιο βαθμό συμφωνείτε/διαφωνείτε με καθεμιά από τις πιο κάτω δηλώσεις, για τη χρήση των αποτελεσμάτων της αξιολόγησης.**

	Διαφωνώ απόλυτα	Διαφωνώ	Συμφωνώ	Συμφωνώ απόλυτα
1. Ένας εκπαιδευτικός δίνει ανατροφοδότηση σε ένα μαθητή:				
α) Προσφέροντας μια λεκτική έκφραση για την ποιότητα της δουλειάς του (τα αίτια της κριτικής του και τρόπους με τους οποίους μπορεί ο μαθητής να καλύψει τις ελλείψεις του).	1	2	3	4
β) Δείχνοντας στο μαθητή συγκεκριμένες παρανοήσεις ή λάθη που προκύπτουν συχνά σε συγκεκριμένη μαθηματική έννοια ή δεξιότητα.	1	2	3	4
γ) Δείχνοντας στους μαθητές πώς μπορούν να προσαρμόσουν την προσέγγισή τους σε μια μαθηματική άσκηση.	1	2	3	4
2. Τα αποτελέσματα της διαμορφωτικής αξιολόγησης πρέπει να:				
α) Ανακοινώνονται στην ολομέλεια της τάξης.	1	2	3	4
β) Συζητούνται μεταξύ των γονιών και του εκπαιδευτικού.	1	2	3	4
γ) Συζητούνται μεταξύ του μαθητή και του εκπαιδευτικού.	1	2	3	4
3. Η διαμορφωτική αξιολόγηση έχει καλύτερα αποτελέσματα όταν οι εκπαιδευτικοί αποφεύγουν τη βαθμολόγηση και τα σχόλια που φανερώνουν σύγκριση της επίδοσης των μαθητών σε σχέση με υπόλοιπους.	1	2	3	4
4. Η ποιότητα της ανατροφοδότησης αυξάνεται όταν η ανατροφοδότηση παρέχεται αμέσως μετά την εργασία των μαθητών.	1	2	3	4
5. Η ανατροφοδότηση για την πρόοδο των μαθητών στα μαθηματικά δημιουργεί στους μαθητές θετικές προσδοκίες για τους εαυτούς τους.	1	2	3	4
6. Η διαμορφωτική αξιολόγηση κατά τη διάρκεια της διδασκαλίας παρέχει ανατροφοδότηση, η οποία	1	2	3	4

βοηθά τους μαθητές να διορθώσουν τα λάθη τους.				
7. Η διαμορφωτική αξιολόγηση κατά τη διάρκεια της διδασκαλίας βοηθά τους εκπαιδευτικούς να εντοπίσουν σημεία προς βελτίωση του μαθήματος τους και να τα διορθώσουν.	1	2	3	4

**ΜΕΡΟΣ Ε': Να σημειώσετε σε ποιο βαθμό συμφωνείτε/διαφωνείτε σχετικά με τον βαθμό που θεωρείτε ότι τα μαθηματικά λάθη προέρχονται από τους πιο κάτω λόγους.**

	Διαφωνώ απόλυτα	Διαφωνώ	Συμφωνώ	Συμφωνώ απόλυτα
1. Τα λάθη σχετίζονται με την έλλειψη μαθηματικής γνώσης.	1	2	3	4
2. Τα λάθη σχετίζονται με το κείμενο, τη διατύπωση των μαθηματικών προβλημάτων.	1	2	3	4
3. Τα λάθη σχετίζονται με τον τρόπο που οι μαθητές μελετούν και προετοιμάζονται για τα μαθηματικά.	1	2	3	4
4. Τα λάθη σχετίζονται με τις στάσεις των μαθητών για τα μαθηματικά.	1	2	3	4
5. Τα λάθη σχετίζονται με την ψυχολογική κατάσταση των μαθητών.	1	2	3	4
6. Τα λάθη σχετίζονται με ακατάλληλους τρόπους διδασκαλίας των μαθηματικών.	1	2	3	4
7. Τα λάθη σχετίζονται με τις περιορισμένες μαθηματικές ικανότητες των μαθητών.	1	2	3	4
8. Τα λάθη οφείλονται στη λάθος ή ελλιπή προϋπάρχουσα γνώση για μια μαθηματική έννοια.	1	2	3	4
9. Τα λάθη οφείλονται σε μια προηγούμενη, ορθά κατακτημένη γνώση, η οποία είναι ακατάλληλη για μια νέα κατάσταση.	1	2	3	4
10. Τα λάθη οφείλονται στη σύγχυση μεταξύ της κατάλληλης προσέγγισης για την πραγματοποίηση μιας μαθηματικής εργασίας, με μια προηγούμενη προσέγγιση που δεν είναι κατάλληλη για τη συγκεκριμένη περίπτωση.	1	2	3	4

11. Τα λάθη οφείλονται στο ότι οι μαθητές προσπαθούν να ικανοποιήσουν τις προσδοκίες των εκπαιδευτικών τους χωρίς να τις εξετάσουν.	1	2	3	4
12. Τα λάθη οφείλονται στο γεγονός ότι δίνεται ακατάλληλη ερώτηση, σε σχέση με τις ικανότητες των μαθητών.	1	2	3	4

**ΜΕΡΟΣ ΣΤ': Να σημειώσετε σε ποιο βαθμό συμφωνείτε/διαφωνείτε όσον αφορά στα άτομα που εμπλέκονται στη διαδικασία αξιολόγησης.**

	Διαφωνώ απόλυτα	Διαφωνώ	Συμφωνώ	Συμφωνώ απόλυτα
1. Η διαμορφωτική αξιολόγηση δίνει απτά αποτελέσματα που οι εκπαιδευτικοί μπορούν να τα μοιραστούν με τους μαθητές και τους γονείς τους.	1	2	3	4
2. Η διαμορφωτική αξιολόγηση δίνει στους μαθητές την ευκαιρία να αξιολογήσουν τους εαυτούς τους.	1	2	3	4
3. Οι μαθητές μπορούν να αναπτύξουν βαθύτερη κατανόηση της μάθησής τους, όταν τους δίνονται ευκαιρίες να συζητούν τη μαθησιακή διαδικασία τους με τους εκπαιδευτικούς και τους συμμαθητές τους.	1	2	3	4
4. Καθώς οι εκπαιδευτικοί δίνουν ανατροφοδότηση, μπορούν να προωθήσουν την αυτοαξιολόγηση των μαθητών κάνοντας τους ερωτήσεις που τους βοηθούν να εστιαστούν στον αυτό-έλεγχο τους.	1	2	3	4

**ΜΕΡΟΣ Ζ': Να απαντήσετε στις ερωτήσεις σχετικά με την εκπαίδευση των εκπαιδευτικών σε ζητήματα αξιολόγησης, σημειώνοντας ✓ όπου είναι απαραίτητο.**

<b>Σε μια μελλοντική πιθανότητα πραγματοποίησης εργαστηρίων/επιμορφώσεων, ποιο/α από τα ακόλουθα θέματα θα θέλατε να παρακολουθήσετε;</b>	
1. Μέθοδοι αξιολόγησης για τις επιδόσεις των μαθητών.	
2. Ενθάρρυνση των μαθητών να συμμετάσχουν στις δραστηριότητες που γίνονται στην τάξη.	
3. Εφαρμογή διαφορετικών μεθόδων αξιολόγησης.	
4. Ανάλυση των αποτελεσμάτων της αξιολόγησης.	
5. Χρήση των μεθόδων αξιολόγησης για την ανατροφοδότηση των	

μαθητών.	
6. Χρήση των μεθόδων αξιολόγησης για τη βελτίωση των ικανοτήτων των μαθητών.	
7. Χρήση των μεθόδων αξιολόγησης για την ανάπτυξη των ικανοτήτων των εκπαιδευτικών να διδάσκουν πιο αποτελεσματικά.	
8. Τεχνικές διατύπωσης κατάλληλων ερωτήσεων.	
9. Αποτελεσματική χρήση των παρανοήσεων των μαθητών.	
10. Ανατροφοδότηση ως μορφή σχολιασμού και όχι ως μορφή βαθμολόγησης των μαθητών.	
11. Προφορική Ανατροφοδότηση.	
12. Κοινοποίηση κριτηρίων αξιολόγησης στους μαθητές.	
13. Ετερο-αξιολόγηση μαθητών.	
14. Αντό-αξιολόγηση μαθητών.	
15. Άλλο θέμα (παρακαλώ σημειώστε το θέμα):	
16. Δε θα ήθελα να συμμετάσχω σε οποιοδήποτε εργαστήριο ή επιμόρφωση.	

## c. IN ITALIAN

<p>Dipartimento di Scienze dell'Educazione - Survey - Questiona... <a href="http://survey.edu.unibo.it/index.php/admin/printablesurvey/1a...">http://survey.edu.unibo.it/index.php/admin/printablesurvey/1a...</a></p> <p><b>Questionario Docenti FAMT&amp;L - Svizzera</b></p> <p><b>Progetto FAMT&amp;L - Formative Assessment for Mathematics Teaching and Learning</b></p> <p>Sondaggio sulle credenze e le pratiche degli insegnanti di matematica, in particolare concernenti la valutazione in aula.</p> <p>Caro/a Collega,</p> <p>Il questionario è composto da una serie di domande (soprattutto di tipo strutturato) per le quali non esistono risposte giuste o sbagliate, ma solo indicazioni di opinione. La invitiamo pertanto a rispondere con estrema sincerità e in modo del tutto personale, entro i tempi indicati, tanto più perché il questionario è compilato attraverso un sistema telematico.</p> <p>Nel pieno rispetto della privacy. Le assicuriamo che i dati raccolti saranno trattati esclusivamente in modo anonimo e che i risultati verranno presentati solo in forma aggregata.</p> <p>La ringraziamo per la Sua preziosa collaborazione e per la Sua gentile disponibilità. Ringraziando per la collaborazione, inviamo cordiali saluti.</p> <p>Silvia Sharagi (Docente-ricercatrice) Miriam Salvisberg (Ricercastrice)</p> <p>Ci sono 26 domande all'interno di questa indagine.</p> <p><b>Parte A</b></p> <p><b>Informazioni generali</b></p> <p><b>Genere *</b></p> <p>Segli solo una delle seguenti:</p> <p><input type="radio"/> Femmina <input type="radio"/> Maschio</p>	<p>Dipartimento di Scienze dell'Educazione - Survey - Questiona... <a href="http://survey.edu.unibo.it/index.php/admin/printablesurvey/1a...">http://survey.edu.unibo.it/index.php/admin/printablesurvey/1a...</a></p> <p><b>Età *</b></p> <p>Segli solo una delle seguenti:</p> <p><input type="radio"/> 20-30 <input type="radio"/> 31-40 <input type="radio"/> 41-50 <input type="radio"/> 51-60 <input type="radio"/> Più di 60</p> <p><b>Titolo di studio *</b></p> <p>Commenta solo quando hai scelto una risposta</p> <p>Segliere tutte quelle che corrispondono e inserire un commento:</p> <p><input type="checkbox"/> Diploma <input type="text"/> <input type="checkbox"/> Laurea <input type="text"/> <input type="checkbox"/> Master <input type="text"/> <input type="checkbox"/> Altro <input type="text"/></p> <p>Inserire le voci che interessano e inserire il tipo di titolo</p> <p><b>Da quanti anni lei insegna matematica? *</b></p> <p>Solo valori numerici sono consentiti per questo campo</p> <p>Scrivere la propria risposta qui: <input type="text"/></p> <p>Inserire il numero di anni (solo valori numerici).</p> <p><b>Lei è insegnante nominato/a? *</b></p> <p>Segli solo una delle seguenti:</p> <p><input type="radio"/> Si <input type="radio"/> No</p>
<p>Dipartimento di Scienze dell'Educazione - Survey - Questiona... <a href="http://survey.edu.unibo.it/index.php/admin/printablesurvey/1a...">http://survey.edu.unibo.it/index.php/admin/printablesurvey/1a...</a></p> <p><b>Se sì, da quanti anni?</b></p> <p>Solo valori numerici sono consentiti per questo campo</p> <p>Scrivere la propria risposta qui: <input type="text"/></p> <p>Indicare il numero di anni</p> <p><b>Lei ha mai insegnato in gradi di scuola diversi da quello attuale? *</b></p> <p>Segli solo una delle seguenti:</p> <p><input type="radio"/> Si <input type="radio"/> No</p> <p><b>Se sì, in quale/i grado/i di scuola?</b></p> <p>Segli solo una delle seguenti:</p> <p><input type="radio"/> Scuola elementare <input type="radio"/> Scuola media superiore <input type="radio"/> Altro</p> <p><b>Lei fa parte di (o collabora con) qualche associazione che opera nel mondo della scuola? (ad es.: Società Matematica Svizzera Italiana, SMASI, ecc.)? *</b></p> <p>Segli solo una delle seguenti:</p> <p><input type="radio"/> Si <input type="radio"/> No</p>	<p>Dipartimento di Scienze dell'Educazione - Survey - Questiona... <a href="http://survey.edu.unibo.it/index.php/admin/printablesurvey">http://survey.edu.unibo.it/index.php/admin/printablesurvey</a></p> <p><b>Negli ultimi 3 anni, ha partecipato ad attività di formazione o aggiornamento sulla valutazione, organizzate da istituzioni pubbliche o private? *</b></p> <p>Segli solo una delle seguenti:</p> <p><input type="radio"/> Si <input type="radio"/> No</p> <p><b>Se sì, a quali attività di formazione sulla valutazione ha partecipato?</b></p> <p>Scrivere la propria risposta qui: <input type="text"/></p> <p>Inserire brevemente la propria risposta</p> <p><b>Negli ultimi tre anni scolastici, ha letto dei testi, delle riviste o altre pubblicazioni scientifiche sul tema della valutazione scolastica? *</b></p> <p>Segli solo una delle seguenti:</p> <p><input type="radio"/> Si <input type="radio"/> No</p>

**Se si, specifichi il tipo di lettura**

Scrivere la propria risposta qui:

Se testi, riviste, pubblicazioni scientifiche, saggi, altro...

**Parte B****Funzioni e oggetti della valutazione formativa**

**Di seguito sono elencate una serie di affermazioni riguardanti lo scopo e le funzioni della valutazione formativa in matematica in classe.**  
**Facendo riferimento alla sua esperienza quotidiana in classe, esprima il suo grado di accordo/disaccordo per ciascuna di esse.**

**La valutazione formativa dovrebbe: \***

Scegliere la risposta appropriata per ciascun elemento:

	Per niente d'accordo	Poco d'accordo	Abbastanza d'accordo	Molto d'accordo
stabilire con precisione ciò che gli studenti hanno appreso in matematica.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
identificare i punti di forza e di debolezza degli apprendimenti degli studenti in matematica.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
identificare come gli studenti ragionano in matematica.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
basarsi sui risultati degli studenti in matematica piuttosto che sui loro processi di apprendimento.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
valutare la capacità degli studenti di applicare la matematica in contesti reali ma non familiari.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
aiutare gli studenti a migliorarsi in matematica, basarsi su procedure specifiche (mentre quella somministrativa è oggettiva).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
consentire al docente di modificare la propria programmazione didattica in base alle esigenze degli studenti.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Per niente d'accordo	Poco d'accordo	Abbastanza d'accordo	Molto d'accordo
dare al docente la possibilità di verificare la validità del proprio lavoro.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
evidenziare la qualità, piuttosto che la quantità, relativamente ai compiti di matematica eseguiti dagli studenti.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
fornire consigli ed indicazioni piuttosto che giudizi.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
evocare i confronti fra gli studenti e, al contrario, consentire a ciascuno studente di ottenere una valutazione individuale del proprio apprendimento.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
dare feedback che rafforzino la motivazione e conducano a un miglioramento nelle conoscenze e nelle abilità matematiche.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Che cosa è importante valutare in matematica**

Esprimi quanto, secondo lei, è importante valutare ciascuna delle seguenti abilità in matematica.\*

Scegliere la risposta appropriata per ciascun elemento:

	Per niente importante	Poco importante	Abbastanza importante	Molto importante
Abilità di conoscenza (abilità di memorizzare regole, assiomi, teoremi e altre informazioni matematiche)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abilità di comprensione (capacità di comprendere il significato degli oggetti matematici e di saper passare da una rappresentazione all'altra del medesimo oggetto)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abilità di analisi (abilità di analizzare le informazioni e di trarre nuove informazioni mediante processi di natura logico-matematica)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abilità di sintesi (abilità di organizzare le informazioni matematiche per ottenere un quadro che alla contemporaneamente un nuovo significato)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Parte C**  
Gli strumenti della valutazione formativa

**Fino a che punto lei è d'accordo sul fatto che le seguenti tipologie di prove/strumenti di valutazione (usate in un'ottica formativa) siano adeguate per favorire l'apprendimento della matematica? \***

Scegliere la risposta appropriata per ciascun elemento:

	Per niente adeguate	Poco adeguate	Abbastanza adeguate	Molto adeguate
Osservazioni delle prestazioni matematiche dello studente in classe (in modo non sistematico)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Domande e risposte orali (interrogazioni)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Osservazioni delle prestazioni matematiche dello studente in classe (in modo sistematico, con l'aiuto di griglie apposite)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interviste e colloqui individuali di tipo strutturato	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Test oggettivi di profitto, con risposte a scelta multipla	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Test oggettivi di profitto, con domande vero/falso	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Test oggettivi di profitto, con domande che richiedano di assessi tra loro gruppi di persone secondo un criterio assegnato	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Test oggettivi di profitto, con completamento di frasi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Svolgimento di esercizi o problemi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analisi e risoluzione di casi complessi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Quanto si ritiene competente nell'applicazione delle seguenti procedure e strumenti di valutazione? \***

Scegliere la risposta appropriata per ciascun elemento:

	Per niente	Poco	Abbastanza	Molto
Analisi di discussioni di classe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Osservazione delle prestazioni degli studenti in classe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interviste individuali agli studenti	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Test di profitto	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interrogazione orale	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verifica sistematica delle abilità esppositive (orali) degli studenti	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Autovalutazione degli studenti	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Valutazione degli studenti realizzata tra pari	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Parte C1

#### L'uso della valutazione formativa in matematica.

Di seguito sono elencate una serie di affermazioni riguardanti le convinzioni degli insegnanti in merito all'uso della valutazione formativa in matematica. Espri il suo grado di accordo/disaccordo.

Affinché la valutazione sia formativa, essa richiede sempre all'insegnante di: *				
	Per niente d'accordo	Poco d'accordo	Abbastanza d'accordo	Molto d'accordo
condividere con gli studenti gli obiettivi di apprendimento in matematica che si dovranno raggiungere fornire feedback che possano aiutare gli studenti ad identificare come poter migliorare in matematica riflettere insieme agli studenti sulle loro performance e sui loro progressi proporre agli studenti tecniche di autovalutazione utili capire di quali abilità matematiche hanno bisogno per procedere nel lavoro	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Espri il suo grado di accordo/disaccordo per ciascuna delle seguenti affermazioni.

#### La valutazione formativa è più efficace quando: \*

Scegliere la risposta appropriata per ciascun elemento:				
	Per niente d'accordo	Poco d'accordo	Abbastanza d'accordo	Molto d'accordo
gli studenti hanno una chiara idea di cosa l'insegnante si aspetta da loro.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l'insegnante esplicita con maggiore chiarezza agli studenti gli obiettivi di apprendimento fornendo esempi di lavori di matematica sia buoni sia scadenti.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l'insegnante esplicita chiare aspettative agli studenti così da fissare obiettivi realistici e raggiungibili.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l'insegnante fornisce feedback agli studenti sul loro progresso relativamente a specifici obiettivi d'apprendimento.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l'insegnante promuove negli studenti abilità di autovalutazione.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Parte C2

#### I criteri di valutazione

#### Quanto, secondo lei, ciascuno dei seguenti fattori dovrebbe costituire un importante criterio di valutazione degli studenti in matematica? \*

Scegliere la risposta appropriata per ciascun elemento:				
	Per niente	Poco	Abbastanza	Molto
Note in matematica di anni precedenti	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Note in matematica dell'anno scorso	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Note dell'anno corrente in altre materie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Partecipazione attiva dello/a studentessa alle attività della classe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Condotta dello/a studentessa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motivazione personale ad apprendere	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interesse nei confronti dei compiti assegnati in classe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interesse nei confronti dei compiti assegnati a casa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Media della classe nelle prove di matematica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Media delle classi parallele nelle prove in matematica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prove cantonali in matematica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Criteri definiti dal docente a partire dalla propria programmazione didattica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Criteri definiti da gruppi di docenti a partire da programmazioni didattiche comuni	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Parte D

### Uso dei risultati della valutazione formativa in matematica

Quanto, secondo lei, è importante utilizzare ciascuna delle seguenti modalità di feedback in seguito a ciascuna valutazione in matematica? *				
Scegliere la risposta appropriata per ciascun elemento:				
	Per niente d'accordo	Poco d'accordo	Abbastanza d'accordo	Molto d'accordo
Tramite un'affidazione verbale sulla qualità del lavoro stesso (e motivazioni del giudizio e i modi in cui ad alcune mancanze si può porre rimedio).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mostrando agli studenti specifici fraintendimenti o errori che si verificano frequentemente in una particolare area di contenuto o in un insieme di competenze.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mostrando agli studenti come possono ricondurre il proprio approccio al compito assegnato.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I risultati della valutazione formativa dovrebbero essere: *</b>				
Scegliere la risposta appropriata per ciascun elemento:				
	Per niente d'accordo	Poco d'accordo	Abbastanza d'accordo	Molto d'accordo
annunciati a tutta la classe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
discussi tra genitori e insegnanti.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
discussi tra studente e insegnante.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Esprima il suo grado di accordo/disaccordo per ciascuna delle seguenti affermazioni inerenti l'uso dei risultati della valutazione formativa in matematica. \*

Scegliere la risposta appropriata per ciascun elemento:				
	Per niente d'accordo	Poco d'accordo	Abbastanza d'accordo	Molto d'accordo
La valutazione formativa funziona al meglio quando l'insegnante evita pratiche di assegnazione di note e commenti che portino gli studenti a confrontarsi con le performance degli altri.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
L'elemento del feedback è importante quando viene fornito subito dopo lo svolgimento di una prova.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feedback sui progressi degli studenti nell'apprendimento della matematica danno agli studenti stessi sicurezza e aspettative positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
La valutazione formativa durante il processo di apprendimento fornisce feedback che aiutano gli studenti a comprendere i loro errori.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
La valutazione formativa durante il processo di apprendimento aiuta gli insegnanti a introdurre correttivi didattici.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Parte E

### Convinzioni diffuse sulle cause degli errori e delle difficoltà di apprendimento degli studenti in matematica

### Di seguito sono presentate alcune convinzioni diffuse sulle cause degli errori e delle difficoltà di apprendimento degli studenti in matematica.

#### In base alla sua esperienza in classe esprima il suo grado di accordo/disaccordo per ciascuna delle seguenti affermazioni. \*

Scegliere la risposta appropriata per ciascun elemento:				
	Per niente d'accordo	Poco d'accordo	Abbastanza d'accordo	Molto d'accordo
Gli errori sono associati alla mancanza di conoscenze	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gli errori sono associati al modo in cui vengono presentati i testi dei problemi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gli errori sono associati al metodo con cui gli studenti studiano e si preparano	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gli errori sono associati all'atteggiamento degli studenti verso la matematica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gli errori sono associati alla situazione psicologica dello studente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gli errori sono associati a modi inappropriati di insegnare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gli errori sono dovuti alle limitate capacità dello studente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gli errori sono dovuti a conoscenze errate o incomplete dello studente su un concetto spiegato precedentemente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gli errori sono dovuti a una conoscenza precedentemente acquisita e corretta	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Per niente d'accordo	Poco d'accordo	Abbastanza d'accordo	Molto d'accordo
che non è adeguata in una nuova situazione Gli errori sono dovuti alla confusione dello studente sul modello mentale necessario da utilizzare per lo svolgimento del compito	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gli errori sono dovuti alla tendenza degli studenti a soddisfare le richieste dei loro insegnanti senza esaminarle con attenzione	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gli errori sono dovuti al fatto che è stata fatta una domanda inappropriata per verificare le abilità dello studente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Parte F

##### Aggiornamento degli insegnanti di matematica

In merito alla formazione degli insegnanti di matematica, le proponiamo di seguito alcune tematiche inerenti le competenze valutative, chiedendole di selezionare quelle che ritiene più importanti.

**Se dovessero essere organizzati dei corsi di aggiornamento in futuro, per favore selezionare dall'elenco quali argomenti vorrebbe approfondire. \***

Scegliere tutte le corrispondenti:

- Conoscenza di procedure e strumenti di valutazione degli studenti
- Come incoraggiare la partecipazione degli studenti nelle attività di classe
- Laboratori sulle diverse procedure e strumenti di valutazione
- Analisi dei risultati nelle diverse procedure e strumenti di valutazione
- Utilizzo del feedback formativo nella valutazione in matematica
- Procedure e strumenti di valutazione per incrementare le abilità degli studenti
- Procedure e strumenti di valutazione per migliorare l'efficacia didattica degli insegnanti
- Tecniche per la verifica di abilità di tipo superiore (pensiero divergente, pensiero critico, ecc.)
- Analisi delle misconcezioni degli studenti
- Il feedback formativo senza l'uso delle note
- L'uso del feedback orale
- Condivisione di criteri di valutazione
- Valutazione tra pari
- Autovalutazione degli studenti
- Non mi piacerebbe partecipare a alcun corso di aggiornamento

Può scegliere una o più voci.

Le piacerebbe approfondire altri argomenti in percorsi di formazione e di aggiornamento per insegnanti?

Se sì, per favore indichi quali.

Scrivere la propria risposta qui:

Grazie per aver partecipato!

Inviare il questionario.  
Grazie per aver completato il questionario.

## d. IN FRENCH

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### **Recherche: L'EVALUATION FORMATIVE DANS L'ENSEIGNEMENT ET L'APPRENTISSAGES DES MATHÉMATIQUES**

#### **Chercheurs:**

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Chers collègues,

Le but de notre recherche est d'étudier l'évaluation formative dans l'enseignement et l'apprentissage des mathématiques. Les principaux objectifs de ce projet consistent en:

- La réalisation d'une enquête par questionnaire sur les croyances et les pratiques des enseignants de mathématiques, concernant l'évaluation en classe;
- L'élaboration d'un modèle de formation comprenant l'utilisation des outils et des objets propres à un site Web (espaces de dépôt sur un site Web), qui servira à la mise en œuvre des activités significatives (importantes, utiles) pour la formation des enseignants de mathématiques de secondaire.

Par conséquent, lorsque nous parlons de «l'évaluation» dans les énoncés ci-dessous, nous nous référons à «l'évaluation formative» en mathématiques. Plus particulièrement, l'évaluation formative fait partie du processus d'enseignement-apprentissage et participe à sa régulation. L'évaluation formative contribue à l'identification de manière analytique, des forces et des faiblesses de l'apprentissage des élèves, afin de permettre aux enseignants de réfléchir et de modifier leurs pratiques d'enseignement en fonction des performances des élèves. L'évaluation formative encourage et favorise l'apprentissage de tous les élèves par un enseignement différencié qui assure des rythmes différents et des stratégies d'enseignement et d'apprentissage spécifiques à chaque élève. En outre, l'évaluation formative suppose l'implication des élèves dans l'analyse de leurs propres erreurs / faiblesses et permet leur auto-évaluation ainsi que l'évaluation par les pairs, et donc leur participation active dans le processus d'enseignement-apprentissage.

Par conséquent, nous vous demandons de bien vouloir remplir le questionnaire ci-dessous. Votre contribution est précieuse pour notre recherche. Nous vous assurons que vos réponses sont confidentielles et elles ne seront utilisées que pour les fins de notre recherche. Dans le cas où vous avez des questions au sujet de l'enquête, veuillez s'il vous plaît nous contacter par e-mail, à l'adresse fournie en haut de cette page.

Nous tenons à vous remercier pour votre collaboration.

Cordialement

L'équipe du projet

## **QUESTIONNAIRE**

### **PARTIE A: Entourez la bonne réponse ou complétez les questions suivantes.**

Genre: a) Homme      b) Femme

Âge: a) 20-30    b) 31-40    c) 41-50    d) 51-60    e) plus de 60

Education:    Licence        Spécialité:

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Master        Spécialité:

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Doctorat        Spécialité:

---

Depuis combien de temps enseignez-vous les mathématiques? (indiquez le nombre d'années) \_\_\_\_\_

Avez-vous déjà enseigné à d'autres niveaux que celui en cours?

- Non

- Oui     Combien du temps et à quel niveau?

---

Enseignez-vous dans plusieurs écoles?

- Non

- Oui     Nombre d'écoles: \_\_\_\_\_

Faites-vous partie (ou travaillez-vous dans le cadre) d'une association active dans le domaine de l'éducation ?

- Non

- Oui  Le nom de l'association:

Avez-vous déjà suivi des formations (stages) en matière d'évaluation, organisées par des institutions publiques ou privées ?

- Non

- Oui  Indiquez les formations suivies:

Avez-vous lu des articles sur les sujets de l'évaluation de l'école au cours des trois dernières années scolaires?

- Non

- Oui

**PARTIE B: Indiquez votre degré d'accord / désaccord pour chacun des énoncés suivants, concernant l'objectif et les fonctions de l'évaluation en classe.**

	en	Plutôt en	désaccord
11. L'évaluation formative formalise ce que les élèves ont appris en mathématiques.	1	2	
12. L'évaluation formative identifie les compétences fortes et faibles des élèves en mathématiques.	1	2	
13. L'évaluation formative identifie comment les élèves pensent en mathématiques.	1	2	
14. L'évaluation formative doit être basée sur les résultats des élèves en mathématiques plutôt que sur le processus.	1	2	
15. L'évaluation formative doit évaluer la capacité des élèves à appliquer les mathématiques dans des situations quotidiennes inconnues.	1	2	
16. Les différentes méthodes d'évaluation visent à évaluer :			
e) Les connaissances (mémorisation) des élèves: la capacité à mémoriser des règles, des axiomes, des théorèmes mathématiques et autres informations	1	2	
f) La compréhension des élèves : la capacité à percevoir une signification mathématique et à transformer les idées mathématiques d'une forme à une autre	1	2	
g) La capacité d'analyse des élèves: la capacité à analyser les informations et d'arriver à des conclusions mathématiques	1	2	
h) La capacité de synthèse: la capacité à organiser des idées mathématiques dans un tout, pour former une image complète qui a du sens	1	2	

17.	Le but de l'évaluation formative est d'aider les élèves à surmonter les difficultés et à se perfectionner en mathématiques.	1	2
18.	L'évaluation formative est subjective tandis que l'évaluation sommative est objective	1	2
19.	Selon les résultats de l'évaluation formative, je modifie mon plan d'enseignement en fonction des besoins de mes élèves.	1	2
20.	L'évaluation de mes élèves est très utile pour moi, car elle me donne l'occasion de vérifier l'efficacité de mon travail.	1	2

**PARTIE C: Indiquez votre degré d'accord / désaccord pour chacun des énoncés suivants, sur l'utilisation de différentes techniques d'évaluation.**

		Fortement en désaccord	Plutôt en désaccord	Plutôt d'accord	Fortement d'accord
22.	Pour que l'évaluation formative soit juste, elle doit être menée selon des tâches standardisées.	1	2	3	4
23.	L'évaluation d'un sujet particulier de mathématiques (théorème de géométrie ou de l'espace, par exemple « Pythagore ») ne devrait pas influencer l'évaluation des autres sujets (par exemple, la résolution d'équations ou d'algèbre).	1	2	3	4
24.	Le développement professionnel de la pratique d'évaluation formative en classe exige que les enseignants comprennent :				
	c) Le potentiel de la construction sociale de la connaissance.	1	2	3	4
	d) La possibilité d'améliorer l'apprentissage des élèves.	1	2	3	4
25.	Parfois, il est nécessaire d'attribuer des mauvaises notes, afin d'encourager l'élève à faire plus d'effort.	1	2	3	4
26.	L'enseignant ne doit pas tenter de faire connaître aux élèves les critères d'évaluation utilisés.	1	2	3	4
27.	Les différentes compétences en mathématiques nécessitent différentes pratiques d'évaluation ou différents outils d'évaluation.	1	2	3	4
28.	Si un enseignant ne s'engage pas à identifier les points faibles et les points forts des élèves très tôt, au début de l'année scolaire, alors il / elle ne peut certainement pas combler les lacunes des élèves.	1	2	3	4

29.	L'évaluation formative en mathématiques est réalisée principalement en faisant des observations informelles.	1	2	3	4
30.	L'évaluation formative est menée principalement par le biais des questions orales posées aux élèves quand le contenu mathématique est enseigné ou contrôlé.	1	2	3	4
31.	L'évaluation formative signifie à donner des exercices (problèmes, etc.) sans les noter.	1	2	3	4
32.	Dans quelle mesure êtes-vous en accord avec le fait que les techniques d'évaluation suivantes sont appropriées dans l'enseignement des mathématiques?				
i)	Observation non structurée (libre)	1	2	3	4
j)	Questions et réponses orales	1	2	3	4
k)	Observation structurée (systématique)	1	2	3	4
l)	Entretien	1	2	3	4
m)	Test de performance pour chaque élève	1	2	3	4
n)	Test avec des choix multiples	1	2	3	4
g)	Questions d'appariement	1	2	3	4
h)	Phrases à compléter	1	2	3	4
33.	Certaines caractéristiques de l'évaluation sont intégrées dans un certain nombre de processus tels que:				
e)	partager les objectifs d'apprentissage mathématiques avec les élèves	1	2	3	4
f)	fournir du feedback qui aide les élèves à identifier les moyens d'amélioration des compétences en mathématiques	1	2	3	4
g)	l'examen et la réflexion sur les performances et le progrès des élèves (réalisés ensemble par les élèves et l'enseignant)	1	2	3	4
h)	l'apprentissage des techniques d'auto-évaluation pour découvrir des compétences mathématiques nécessaires pour des futurs travaux.	1	2	3	4
34.	L'évaluation formative est plus efficace lorsque les élèves ont une idée claire de ce que les enseignants attendent d'eux.	1	2	3	4
35.	Les enseignants peuvent améliorer la clarté des objectifs d'apprentissage des élèves en fournissant des exemples de	1	2	3	4

production mathématique faible et excellente.				
36. Fournir des attentes précises permet aux élèves de fixer des objectifs réalistes et réalisables.	1	2	3	4
37. L'évaluation formative est plus efficace lorsque les enseignants font des commentaires sur les progrès des élèves dans le but d'atteindre des objectifs particuliers d'apprentissage.	1	2	3	4
38. L'évaluation formative est plus efficace lorsque les enseignants encouragent les élèves à s'autoévaluer (l'autoévaluation)	1	2	3	4
39. L'évaluation formative de qualité prend de nombreuses formes, mais toujours elle:				
e) met l'accent plutôt sur la qualité que sur la quantité de travail de l'élève en mathématique.	1	2	3	4
f) suppose des conseils et des explications des notes	1	2	3	4
g) évite la comparaison entre les élèves favorisant plutôt l'autoévaluation	1	2	3	4
h) donne de feedback qui motive les élèves et conduit vers l'amélioration de leurs niveaux en mathématiques	1	2	3	4
40. Dans quelle mesure vous êtes d'accord que les facteurs suivants constituent vos attentes concernant l'évaluation future de vos élèves?				
h) Les notes précédentes	1	2	3	4
i) Les notes courantes	1	2	3	4
j) La participation aux activités de la classe	1	2	3	4
k) Le comportement de l'élève	1	2	3	4
l) La motivation à apprendre	1	2	3	4
m) L'intérêt pour les exercices en classe	1	2	3	4
n) L'intérêt pour les devoirs	1	2	3	4

41. À quelle fréquence les facteurs suivants affectent votre capacité à appliquer différentes méthodes d'évaluation?	Jamais	Rarement	Souvent	Toujours
g) La charge de travail prévue par le curriculum	1	2	3	4
h) La charge de travail d'analyse	1	2	3	4
i) La prise de conscience insuffisante des différentes méthodes d'évaluation	1	2	3	4
j) Le nombre d'élèves dans la classe	1	2	3	4
k) Le temps d'enseignement insuffisant	1	2	3	4
l) Le faible niveau de réussite des élèves	1	2	3	4

42. Comment vous vous considérez quand il s'agit d'utiliser les techniques d'évaluation suivantes :	Pas du tout compétent	Moins compétent	Compétent	Très compétent
j) Discussion en classe	1	2	3	4
k) Observation en classe	1	2	3	4
l) Entretiens individuels avec les élèves	1	2	3	4
m) Evaluation des activités individuelles des élèves	1	2	3	4
n) Evaluation des activités de groupe des élèves	1	2	3	4
o) Questionnement oral	1	2	3	4
p) Evaluation des compétences de présentation	1	2	3	4
q) Auto-évaluation des élèves	1	2	3	4
r) Evaluation des élèves par les pairs	1	2	3	4

**PARTIE D: Indiquez votre degré d'accord / désaccord pour chacun des énoncés suivants, concernant l'utilisation des résultats de l'évaluation.**

	Fortement en désaccord	Plutôt en désaccord	Plutôt d'accord	Fortement d'accord
8. Donner un feedback à un élève consiste à :				
d) Commenter la qualité du travail lui-même (les motifs du jugement et la façon dont certaines des lacunes pourraient être corrigés).	1	2	3	4
e) Montrer des malentendus ou des erreurs que les élèves font avec certains contenus mathématiques ou un ensemble de compétences spécifiques des élèves.	1	2	3	4
f) Montrer aux élèves comment ils peuvent adapter leur approche afin de réaliser une tâche.	1	2	3	4
9. Les résultats de l'évaluation formative doivent être:				
d) annoncés à la classe entière.	1	2	3	4
e) discutés avec les parents	1	2	3	4
f) discutés avec l'élève	1	2	3	4
10. L'évaluation formative fonctionne mieux lorsque l'enseignant évite les pratiques de notation et les commentaires qui montrent aux élèves comment leurs performances se comparent aux celles des autres élèves	1	2	3	4
11. La qualité du feedback s'accroît lorsque le feedback est	1	2	3	4

donné juste après une réponse.				
12. Le feedback sur les progrès des élèves dans l'apprentissage des mathématiques donne de l'espoir et des attentes positives aux élèves.	1	2	3	4
13. L'évaluation formative pendant l'enseignement fournit un feedback qui aide les élèves à corriger leurs erreurs.	1	2	3	4
14. L'évaluation formative au cours de l'enseignement aide les enseignants à identifier et mettre en œuvre des corrections pédagogiques.	1	2	3	4

**PARTIE E: Indiquez votre degré d'accord / désaccord sur le fait que les erreurs mathématiques proviennent des raisons suivantes.**

	Fortement en désaccord	Plutôt en désaccord	Plutôt d'accord	Fortement d'accord
13. Les erreurs sont associées à un manque de connaissances.	1	2	3	4
14. Les erreurs sont associées au texte du problème.	1	2	3	4
15. Les erreurs sont associées à la façon dont les élèves apprennent et se préparent eux-mêmes.	1	2	3	4
16. Les erreurs sont associées à l'attitude de l'élève à l'égard des mathématiques.	1	2	3	4
17. Les erreurs sont associées à l'état psychologique de l'élève.	1	2	3	4
18. Les erreurs sont associées à des moyens inappropriés d'enseignement.	1	2	3	4
19. Les erreurs sont dues aux capacités limitées des élèves.	1	2	3	4
20. Les erreurs sont dues à des connaissances erronées ou incomplètes sur un concept enseigné auparavant.	1	2	3	4
21. Les erreurs sont dues à une bonne connaissance précédente qui n'est pas approprié dans une situation nouvelle.	1	2	3	4
22. Les erreurs sont dues à une confusion du modèle nécessaire pour accomplir une tâche avec un modèle déjà connu.	1	2	3	4
23. erreurs sont dues à la tendance des élèves à réaliser	1	2	3	4

les souhaits de leur professeur sans les examiner.				
24. Les erreurs sont dues au fait qu'une question inappropriée pour la capacité de l'élève lui est donnée.	1	2	3	4

**PARTIE F: Indiquez votre degré d'accord / désaccord sur les acteurs impliqués dans le processus d'évaluation.**

	Fortement en désaccord	Plutôt en désaccord	Plutôt d'accord	Fortement d'accord
5. L'évaluation formative fournit un produit concret que l'enseignant peut partager avec les élèves et les parents.	1	2	3	4
6. L'évaluation formative donne aux étudiants la possibilité de s'autoévaluer.	1	2	3	4
7. Les élèves peuvent développer une compréhension plus profonde de leur apprentissage quand ils ont l'occasion de discuter du processus d'apprentissage avec leur enseignant et leurs pairs.	1	2	3	4
8. Au moment du feedback, les enseignants peuvent encourager l'auto-évaluation en posant aux élèves des questions qui les aident à se concentrer sur l'autocontrôle.	1	2	3	4

**PARTIE G: Répondez aux questions concernant la formation des enseignants au sujet de l'évaluation et noter✓ lorsqu'il est nécessaire.**

Merci d'indiquer, s'il vous plaît, les sujets que vous aimeriez discuter lors des formations au sujet de l'évaluation à venir :

17. Les méthodes pour évaluer les acquis (la réussite) des élèves
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18. Encourager la participation des élèves aux activités en classe.	
19. L'application de différentes méthodes d'évaluation.	
20. L'analyse des résultats obtenus par différentes méthodes d'évaluation	
21. L'utilisation de méthodes d'évaluation afin de donner du feedback aux élèves	
22. L'utilisation de méthodes d'évaluation afin d'améliorer les compétences (performances) des élèves	
23. L'utilisation de méthodes d'évaluation afin de développer des compétences pour enseigner efficacement.	
24. techniques de questionnement	
25. Utilisation d'idées fausses (des erreurs).	
26. Le feedback sous la forme des commentaires et non sous la forme des notes.	
27. Le feedback verbal.	
28. Le partage des critères d'évaluation.	
29. L'évaluation par les pairs.	
30. L'autoévaluation	
31. Autres sujets (s'il vous plaît, indiquez-les) :	
32. Je ne voudrais pas participer à des formations au sujet de l'évaluation	

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**DELIVERABLE 2.1.2: QUESTIONNAIRE FOR STUDENTS**

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**i. IN ENGLISH**

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**RESEARCH: STUDENTS' BELIEFS ABOUT ASSESSMENT IN  
MATHEMATICS****QUESTIONNAIRE****PART A**

*Circle the proper choice for you or complete the following questions.*

1. Date: .....
2. Gender:    a) Male    b) Female
3. Grade: .....
4. School: .....

**PART B**

*A. How important do you think are the following methods of assessment in math? Put in order of importance the following methods for your assessment in mathematics.*

*\*\*\*Note: The number 4 represents the highest degree of importance.*

*B. Put a √ next to the items that represent your math teachers' method(s) of assessing you (you may choice more than one option).*

	A	B
--	---	---

1a. Test with Completion tasks	1	2	3	4	
1b. Test with Multiple choice tasks	1	2	3	4	
1c. Test with True – False tasks	1	2	3	4	
1d. Test with Matching tasks	1	2	3	4	
1e. Test with Closed-ended tasks	1	2	3	4	
1f. Test with Open-ended tasks	1	2	3	4	
2. Participation in class	1	2	3	4	
3. Portfolio	1	2	3	4	
4. Homework	1	2	3	4	
5. Project	1	2	3	4	
6. Presentation of works, reports etc	1	2	3	4	
7. Peer-Feedback	1	2	3	4	
8. Self- assessment	1	2	3	4	
9. Individual interviews	1	2	3	4	
10. Individual activities	1	2	3	4	
11. Group activities	1	2	3	4	
12. Other (Write down exactly the assessment method that your teacher uses):	1	2	3	4	

### PART C

*Express your opinion about the following statements, by circling the proper number in the scale (from 1=never to 4=often).*

	Never	Rarely	Sometimes	Often
Assessment helps me identifying my good skills in math.	1	2	3	4
Assessment does not help me facing my difficulties on a mathematical subject.	1	2	3	4

The grades that I receive on a math test cannot show if I have understood the mathematical subjects I have been taught.	1	2	3	4
Some assessments serve to verify only what I have understood on a mathematical subject and not for our grade report.	1	2	3	4
When feedback is continuous I feel I have a foundation that helps me to understand what I am learning in math.	1	2	3	4
Assessment in math provokes me anxiety.	1	2	3	4
I feel more confidence about myself when I have more frequent feedback about my progress in a mathematic subject.	1	2	3	4
Assessment information motivates me to set new goals in learning math.	1	2	3	4
When I am not satisfied about the grades that I have received for my working in math, I have to try harder.	1	2	3	4
The grades and the reports in math do not force me to work when I don't want to do.	1	2	3	4
My teacher assesses our skills and knowledge:				
• before the instruction of each mathematic concept.	1	2	3	4
• during the instruction of each mathematic concept.	1	2	3	4
• after the instruction of each mathematic concept.	1	2	3	4
After an assessment, my teacher develops mathematical tasks which will help me to face my difficulties in a mathematical subject.	1	2	3	4
For improving students who fail in mathematics, the teacher explains again a mathematical topic.	1	2	3	4
On my corrected works in math, my teacher makes comments that tell me what I have done well.	1	2	3	4
The teacher has not any time to explain me what I don't understand.	1	2	3	4
After an assessment my teacher uses to give different mathematical activities at each student, in order to help us promote our good skills in math.	1	2	3	4
After an assessment my teacher differentiates the activities that he gives us according to our interests.	1	2	3	4
Correcting my mistakes helps me to understand better a mathematical concept.	1	2	3	4
My mistakes in math discourage me.	1	2	3	4

After an assessment in math, my teacher wants to verify if I have understood the mistakes that I have made.	1	2	3	4
My teacher uses our mistakes and interests to plan the next mathematics lesson.	1	2	3	4
My math teacher wants to be with me while I am correcting my mistakes.	1	2	3	4
If I make mistakes in math I deserve a low grade.	1	2	3	4
Where appropriate, I am involved in decisions about how the assessment in math will take place.	1	2	3	4
After an assessment in math, my teacher asks me to make a self-assessment on my corrected work.	1	2	3	4
On my corrected work in math, I make comments that tell me what I have done well.	1	2	3	4
After a classmate marking my test or work in math, I can acknowledge my mistakes easier.	1	2	3	4
The opinion of the good students about my test or my work in math is more important for me than the opinion of the rest students.	1	2	3	4
Having us giving feedback on each other's work helps me also to develop my self-assessment skills.	1	2	3	4
Peer review leads to differentiate the good students from non-good.	1	2	3	4
Having the students correcting each other's work in class leads to increase the competitiveness among them.	1	2	3	4
I prefer not comparing my results in math with my classmates in order to avoid their derision.	1	2	3	4
My math teacher uses to call my parents to make a discussion:				
• <i>before</i> my assessment.	1	2	3	4
• <i>after</i> my assessment.	1	2	3	4
My parents make comments about my corrected tests or works in math, even if I get low or high grades.	1	2	3	4
When I am assessed in math, I usually do a working without knowing precisely what I am expected to do.	1	2	3	4
My teacher's goal of assessment is identifying my learning difficulties in math in order to help me to overcome them.	1	2	3	4
I use to discuss with my teacher his/ her own expectations	1	2	3	4

before an assessment in math.				
I prefer to know the criteria that my teacher uses for my assessment in math.	1	2	3	4
When it is clear to me what and how to learn in a mathematics class, I become a more motivated and engaged learner.	1	2	3	4
For me, to be successful in math means to have a good grade report.	1	2	3	4
It's more important for me to understand the mathematical knowledge I am taught than to get high grade.	1	2	3	4
I usually create a personal check list in order to assess myself in math.	1	2	3	4
If I don't know the grades of my classmates I am not able to know if I have succeeded in math.	1	2	3	4
To be successful in math, I have to be more successful than the rest of the students in my classroom.	1	2	3	4

## b. IN GREEK



Πανεπιστήμιο Κύπρου  
Τμήμα Επιστημών της Αγωγής



### ΕΡΕΥΝΑ: ΑΝΤΙΛΗΨΕΙΣ ΤΩΝ ΜΑΘΗΤΩΝ ΓΙΑ ΤΗΝ ΑΞΙΟΛΟΓΗΣΗ ΣΤΑ ΜΑΘΗΜΑΤΙΚΑ ΣΤΟ ΓΥΜΝΑΣΙΟ

#### ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

#### ΜΕΡΟΣ Α'

*Να βάλεις σε κύκλο ό,τι ισχύει στην περίπτωσή σου ώ να συμπληρώσεις ό,τι ζητείται.*

1. Ημερομηνία: .....
2. Φύλο: α) Αγόρι  
                  β) Κορίτσι
3. Τάξη:     Α                  Β                  Γ
- 4.Σχολείο: .....

#### ΜΕΡΟΣ Β'

**Α. Να εκφράσεις την άποψή σου για το πόσο σημαντικοί είναι οι πιο κάτω τρόποι αξιολόγησης στα μαθηματικά, βάζοντας σε κύκλο τον αντίστοιχο αριθμό στην κλίμακα που βρίσκεται δεξιά.**

**Β. Στη στήλη Β να σημειώσεις με ✓ τους τρόπους αξιολόγησης που χρησιμοποιεί ο/η καθηγητής/τρια σου για τα μαθηματικά (μπορείς να σημειώσεις περισσότερες από μία επιλογή).**

	A				B
	Καθόλου	Λίγο	Αρκετά	Πολύ	

1α. Διαγώνισμα με ασκήσεις συμπλήρωσης	1	2	3	4	
1β. Διαγώνισμα με ασκήσεις πολλαπλής επιλογής	1	2	3	4	
1γ. Διαγώνισμα με ασκήσεις σωστό-λάθος	1	2	3	4	
1δ. Διαγώνισμα με ασκήσεις αντιστοίχισης	1	2	3	4	
1ε. Διαγώνισμα με κλειστού τύπου ασκήσεις	1	2	3	4	
1ζ. Διαγώνισμα με ανοικτού τύπου ασκήσεις	1	2	3	4	
	<b>Καθόλο</b>	<b>Λήγο</b>	<b>Αρκετά</b>	<b>Πολύ</b>	<b>B</b>
2. Συμμετοχή στην τάξη	1	2	3	4	
3. Πορτφόλιο	1	2	3	4	
4. Κατ' οίκον εργασία	1	2	3	4	
5. Πρότζεκτ	1	2	3	4	
6. Παρουσίαση εργασιών	1	2	3	4	
7. Ετερο-αξιολόγηση	1	2	3	4	
8. Αυτό-αξιολόγηση	1	2	3	4	
9. Ατομικές συνεντεύξεις	1	2	3	4	
10. Ατομικές δραστηριότητες	1	2	3	4	
11. Ομαδικές δραστηριότητες	1	2	3	4	
12. Άλλο (Γράψε ακριβώς τη μέθοδο αξιολόγησης που χρησιμοποιεί ο/η καθηγητής/τρια σου στα μαθηματικά):	1	2	3	4	

### ΜΕΡΟΣ Γ'

Να σημειώσεις σε ποιο βαθμό συμφωνείς με καθεμιά από τις πιο κάτω δηλώσεις, βάζοντας σε κύκλο τον αντίστοιχο αριθμό, στην κλίμακα που βρίσκεται δεξιά.

	Ποτέ	Σπάνια	Μερικές φορές	Πάντα
1. Η αξιολόγηση με βοηθά να εντοπίσω τις καλές μου δεξιότητες στα μαθηματικά.	1	2	3	4
2. Η αξιολόγηση δε με βοηθά να αντιμετωπίσω τις δυσκολίες μου στα μαθηματικά.	1	2	3	4
3. Οι βαθμοί που παίρνω στο διαγώνισμα δε δείχνουν εάν έχω καταλάβει αυτά που διδάχτηκα στα μαθηματικά.	1	2	3	4

4. Μερικές αξιολογήσεις εξυπηρετούν μόνο για να δείξουν αυτά που κατάλαβα στα μαθηματικά και όχι για το βαθμό στον έλεγχο μου.	1	2	3	4
5. Όταν η ανατροφοδότηση είναι συνεχής, νιώθω ότι έχω μια βάση που με βοηθά να κατανοήσω αυτά που μαθαίνω στα μαθηματικά.	1	2	3	4
6. Η αξιολόγηση στα μαθηματικά μου προκαλεί άγχος.	1	2	3	4
7. Νιώθω περισσότερη αυτοπεποίθηση όταν έχω πιο συχνή ανατροφοδότηση για την πρόοδο μου σε ένα μαθηματικό θέμα.	1	2	3	4
8. Οι πληροφορίες που παίρνω από την αξιολόγηση μου με παρακινούν να θέσω καινούριους στόχους στα μαθηματικά.	1	2	3	4
	Ποτέ	Σπάνια	Μερικές φορές	Πάντα
9. Όταν δεν είμαι ικανοποιημένος από τους βαθμούς που πήρα για τη δουλειά μου στα μαθηματικά, πρέπει να προσπαθώ περισσότερο.	1	2	3	4
10. Οι βαθμοί που παίρνω στα μαθηματικά δε με αναγκάζουν να δουλεύω περισσότερο, όταν δεν το θέλω.	1	2	3	4
11. Ο καθηγητής μου αξιολογεί τις δεξιότητες και τις γνώσεις μας:				
• πριν από τη διδασκαλία κάθε μαθηματικής έννοιας.	1	2	3	4
• κατά τη διάρκεια της διδασκαλίας κάθε μαθηματικής έννοιας.	1	2	3	4
• μετά από τη διδασκαλία κάθε μαθηματικής έννοιας.	1	2	3	4
12. Μετά από μια αξιολόγηση στα μαθηματικά, ο/η καθηγητής/τρια μου, μού δίνει ασκήσεις που θα με βοηθήσουν να αντιμετωπίσω τις δυσκολίες μου.	1	2	3	4
13. Ο/η καθηγητής/τρια μου επεξηγεί ξανά μια μαθηματική έννοια, προκειμένου να βελτιώσει τους μαθητές που αποτυγχάνουν στο συγκεκριμένο θέμα.	1	2	3	4
14. Ο/η καθηγητής/τρια μου κάνει σχόλια στο διορθωμένο μου διαγώνισμα στα μαθηματικά, για να μου επισημάνει αυτά που έκανα καλά/σωστά.	1	2	3	4
15. Ο/η καθηγητής/τρια μου δεν έχει χρόνο να μου εξηγήσει αυτά που δεν καταλαβαίνω στα μαθηματικά.	1	2	3	4
16. Μετά από μια αξιολόγηση, ο/η καθηγητής/τρια μου, δίνει διαφορετικές ασκήσεις σε κάθε μαθητή, για να τον βοηθήσει να αναδείξει τις καλές του δεξιότητες στα μαθηματικά.	1	2	3	4

17. Μετά από μια αξιολόγηση στα μαθηματικά, ο/η καθηγητής/τρια μου διαφοροποιεί τις ασκήσεις που μας δίνει ανάλογα με τα ενδιαφέροντά μας.	1	2	3	4
18. Διορθώνοντας τα λάθη μου καταλαβαίνω καλύτερα μια μαθηματική έννοια.	1	2	3	4
19. Απογοητεύομαι από τα λάθη μου στα μαθηματικά.	1	2	3	4
20. Μετά από μια αξιολόγηση στα μαθηματικά, ο/η καθηγητής/τρια θέλει να επαληθεύσει εάν έχω καταλάβει τα λάθη που έκανα.	1	2	3	4
21. Ο/Η καθηγητής/τρια μου χρησιμοποιεί τα λάθη μας και τα ενδιαφέροντά μας για να προγραμματίσει/σχεδιάσει το επόμενο μάθημα μαθηματικών.	1	2	3	4
22. Ο/Η καθηγητής/τρια μου θέλει να είναι κοντά μου όταν διορθώνω τα λάθη μου στα μαθηματικά.	1	2	3	4
23. Εάν κάνω λάθη στα μαθηματικά, τότε αξίζω έναν χαμηλό βαθμό.	1	2	3	4
24. Όπου είναι απαραίτητο, εμπλέκομαι σε αποφάσεις για το πώς θα γίνει η αξιολόγησή μου στα μαθηματικά.	1	2	3	4
25. Μετά από μια αξιολόγηση στα μαθηματικά, ο/η καθηγητής/τρια μου, μιόν ζητά να κάνω μια αυτό-αξιολόγηση στο διορθωμένο μου διαγώνισμα.	1	2	3	4
26. Πάνω στο διορθωμένο μου διαγώνισμα στα μαθηματικά, κάνω και δικά μου σχόλια που δείχνουν πού πήγα καλά.	1	2	3	4
27. Όταν ένας συμμαθητής μου διορθώσει το διαγώνισμά μου στα μαθηματικά, μπορώ να αναγνωρίσω τα λάθη μου πιο εύκολα.	1	2	3	4
28. Η γνώμη των καλών μαθητών της τάξης για το διαγώνισμά μου ή τη δουλειά μου στα μαθηματικά είναι πιο σημαντική από τη γνώμη των υπόλοιπων συμμαθητών μου.	1	2	3	4
29. Δίνοντας ανατροφοδότηση ο ένας στον άλλο για τη δουλειά μας στα μαθηματικά (ετερο-αξιολόγηση), με βοηθά να αναπτύξω τις ικανότητες αυτό-αξιολόγησης μου.	1	2	3	4
30. Η ετερο-αξιολόγηση με οδηγεί στο να ξεχωρίσω τους καλούς μαθητές από τους αδύνατους.	1	2	3	4
31. Η ετερο-αξιολόγηση των μαθητών στα μαθηματικά οδηγεί στην αύξηση της ανταγωνιστικότητας μεταξύ τους.	1	2	3	4
32. Προτιμώ να μη συγκρίνω τα αποτελέσματά μου στα μαθηματικά με αυτά των συμμαθητών μου, προκειμένου να αποφύγω τα αρνητικά τους σχόλια.	1	2	3	4
33. Ο/Η καθηγητής/τρια μου καλεί τους γονείς μου για να συζητήσουν:				
• πριν από την αξιολόγηση μου στα μαθηματικά.	1	2	3	4

• μετά την αξιολόγηση μου στα μαθηματικά.	1	2	3	4
34. Οι γονείς μου κάνουν σχόλια για το διορθωμένο μου διαγώνισμα στα μαθηματικά, ασχέτως αν πήρα χαμηλό ή ψηλό βαθμό.	1	2	3	4
35. Όταν αξιολογούμαι στα μαθηματικά, συνήθως εργάζομαι χωρίς να γνωρίζω με ακρίβεια τι αναμένει ο/η καθηγητής/τρια μου από εμένα να κάνω.	1	2	3	4
36. Ο/Η καθηγητής/τρια με αξιολογεί με στόχο να εντοπίσει τις δυσκολίες μου στα μαθηματικά, ώστε να με βοηθήσει να τις αντιμετωπίσω.	1	2	3	4
37. Συζητώ με τον/την καθηγητή/τρια μου για τις προσδοκίες του/της πριν από μια αξιολόγηση στα μαθηματικά.	1	2	3	4
38. Προτιμώ να γνωρίζω τα κριτήρια που χρησιμοποιεί ο/η καθηγητής/τρια μου για την αξιολόγησή μου στα μαθηματικά.	1	2	3	4
39. Όταν είναι σαφές/ξεκάθαρο σε μένα τι θα μάθω στα μαθηματικά και πώς θα το μάθω, έχω περισσότερα κίνητρα να εμπλακώ στο μάθημα.	1	2	3	4
40. Για μένα, το να είσαι επιτυχής στα μαθηματικά σημαίνει να έχεις καλούς βαθμούς στον έλεγχο.	1	2	3	4
41. Είναι πιο σημαντικό για μένα να κατανοήσω τη μαθηματική γνώση που διδάχτηκα παρά να πάρω ψηλό βαθμό.	1	2	3	4
42. Συνήθως δημιουργώ μια προσωπική λίστα με κριτήρια, για να αξιολογήσω τον εαυτό μου στα μαθηματικά.	1	2	3	4
43. Εάν δε γνωρίζω τους βαθμούς των άλλων συμμαθητών μου, δεν μπορώ να ξέρω αν πέτυχα στην αξιολόγηση στα μαθηματικά.	1	2	3	4
44. Για να είσαι επιτυχής στα μαθηματικά, πρέπει να είσαι καλύτερος από τους συμμαθητές σου.	1	2	3	4

## C. IN ITALIAN

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### Questionario Studenti FAMT&L - Svizzera

Con questo questionario si vogliono raccogliere informazioni su quello che pensano gli studenti sull'insegnamento della matematica e in particolare sulla valutazione.

Il sondaggio chiede la tua opinione su alcune affermazioni.

Gentile studentessa / Gentile studente,

come sai, la valutazione è un tema molto importante nella vita scolastica. Proprio per questo, con questo breve questionario, vorremmo conoscere le tue opinioni in merito.

Le tue risposte sono molto importanti perché ci permetteranno di capire cosa pensano gli studenti delle pratiche di valutazione degli insegnanti, in particolare nell'ambito delle discipline matematiche.

Per questo motivo ti chiediamo di leggere con attenzione le domande che seguono e di rispondere molto sinceramente.

Non ci sono risposte giuste e risposte sbagliate, ma sole opinioni personali.

Il Questionario è molto breve e prevede soprattutto "risposte a crocette".

Nei pieno rispetto della legge sulla privacy, ti possiamo assicurare che i dati raccolti saranno trattati esclusivamente in modo anonimo e che i risultati verranno presentati solo in forma aggregata.

Ci sono 9 domande all'interno di questa indagine.

#### Parte A

Seleziona la voce corretta o completa le seguenti domande

##### Genere \*

Scegli solo una delle seguenti:

- Femmina
- Maschio

##### Classe \*

Scegli solo una delle seguenti:

- Prima
- Seconda
- Terza base
- Terza attitudinale
- Quarta base
- Quarta attitudinale

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### Scuola \*

Scrivere la propria risposta qui:

Inserisci il nome della scuola (nome Istituto e città).

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#### Parte B

Opinioni sull'importanza degli strumenti di valutazione in matematica.

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### Quanto pensi siano importanti i seguenti strumenti di verifica in matematica per valutare correttamente quanto gli studenti hanno imparato?

In base alla tua esperienza, scegli l'opzione da 1 a 4, dove 1 vuol dire che, secondo te, l'importanza è minima e 4 che l'importanza è massima.\*

Scegliere la risposta appropriata per ciascun elemento:

	1	2	3	4
Test a completamento (o "test bucati", per esempio un esercizio in cui bisogna inserire le voci mancanti)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Test a risposta multipla	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Test con domande Ver/o Falso	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Test a corrispondenza (due elenchi di concetti da collegare fra loro)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Test con esercizi (ad esempio calcoli o espressioni) di cui si chiede solo il risultato	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Test con problemi di cui si chiede lo svolgimento	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Osservazione della partecipazione degli studenti in classe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Portfolio dello studente (raccolta dei lavori fatti durante il percorso scolastico)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compiti a casa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Svolgimento di progetti di lavoro su situazioni concrete	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presentazione di relazioni su ricerche e lavori personali	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1	2	3	4
Valutazione reciproca tra compagni	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Autovalutazioni (cioè ogni studente valuta se sa quello che ha imparato)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interrogazioni individuali	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attività di gruppo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Altro	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Seleziona dall'elenco gli strumenti di valutazione che il/la tuo/a insegnante di matematica usa più di frequente. \***

Selezionare tutte le corrispondenti:

- Test a completamento (o "test bucati", per esempio) un esercizio in cui bisogna inserire le voci mancanti)
- Test a risposta multipla
- Test con domande Vero/Falso
- Test a corrispondenza (due elenchi di concetti da collegare tra loro)
- Test con esercizi (ad esempio calcoli o espressioni) di cui si chiede solo il risultato
- Test con problemi di cui si chiede lo svolgimento
- Osservazione della partecipazione degli studenti in classe
- Portfolio dello studente (raccolta dei lavori fatti durante il percorso scolastico)
- Compiti a casa
- Svolgimento di progetti di lavoro su situazioni concrete
- Presentazione di relazioni su ricerche e lavori personali
- Valutazione reciproca tra compagni
- Autovalutazione (cioè ogni studente valuta se sa quello che ha imparato)
- Interrogazioni individuali
- Attività di gruppo
- Altro

**Se hai risposto "altro" nella domanda precedente indica QUI quali altri strumenti di valutazione usa il tuo insegnante di matematica.**

Scrivere la propria risposta qui:

## Parte C

Le tue esperienze

**In base alla tua esperienza in classe, esprimi la tua opinione sulle seguenti espressioni indicando il tuo grado di accordo/disaccordo.**

**Nota: seleziona una sola voce di risposta per ogni domanda \***

Selezionare la risposta appropriata per ciascun elemento:

	Per niente d'accordo	Poco d'accordo	Abbastanza d'accordo	Molto d'accordo
La valutazione dell'insegnante mi aiuta a capire quello che so fare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
La valutazione mi aiuta ad affrontare le mie difficoltà sui vari argomenti di matematica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Le note che ricevo nelle verifiche di matematica non fanno vedere realmente se ho capito un argomento che mi è stato insegnato	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alcune verifiche in classe servono solo per stabilire che cosa ho capito di un argomento matematico, e non per la nota finale	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quando l'insegnante ci dice continuamente come stiamo andando, io sento che ho degli elementi che mi aiutano a capire che cosa sto imparando in matematica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Essere valutato/a in matematica mi genera ansia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi sento più sicuro/a di me stesso/a quando l'insegnante mi dice apertamente che sto andando in matematica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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<b>Ancora un piccolo sforzo... Ultime domande sulla tua esperienza!</b>				
<b>In base alla tua esperienza in classe, esprimi la tua opinione sulle seguenti espressioni indicando il tuo grado di accordo/disaccordo.</b>				
<b>Nota: seleziona una sola voce di risposta per ogni domanda *</b>				
Scgliere la risposta appropriata per ciascun elemento:	Per niente d'accordo	Poco d'accordo	Abbastanza d'accordo	Molto d'accordo
La correzione dei miei errori mi aiuta a capire meglio i concetti di matematica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sono consapevole dei miei errori in matematica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sono consapevole che se commetto degli errori in matematica mi merito una nota negativa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Se un compagno/a di classe correge il mio testo o un lavoro in matematica, riconosco più facilmente i miei errori	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sento che l'opinione sul mio lavoro degli studenti "bravi" in matematica è più importante per me dell'opinione degli altri studenti	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
La correzione tra pari (cioè quando siamo noi a correggere i lavori dei nostri compagni) ci porta a differenziare gli studenti in base a quelli non bravi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
La correzione tra pari (cioè quando siamo noi a	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
correggere i lavori dei nostri compagni) ci porta ad aumentare la competizione tra di noi	Preferisco non confrontare i miei risultati in matematica con i miei compagni per evitare di essere dersosa da loro	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quando affronto una verifica di matematica non mi aspetto alcun risultato preciso	Preferisco conoscere i criteri che il/a mia insegnante usa per la mia valutazione in matematica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi motivo e mi impegno di più in matematica quando l'insegnante mi spiega come devo lavorare per imparare bene	Mi motivo e mi impegno di più in matematica quando l'insegnante mi spiega come devo lavorare per imparare bene	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
È più importante per me imparare bene la matematica piuttosto che ottenere note positive	È più importante per me imparare bene la matematica piuttosto che ottenere note positive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Se non conosco il livello dei miei compagni e non sono capace di valutare se io se sono stato bravo/a in matematica	Se non conosco il livello dei miei compagni e non sono capace di valutare se io se sono stato bravo/a in matematica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Per sentirmi brava/a in matematica, devo avere più successo rispetto ai resto degli studenti della mia classe	Per sentirmi brava/a in matematica, devo avere più successo rispetto ai resto degli studenti della mia classe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 13. IN FRENCH



#### RECHERCHE : LES CROYANCES DES ELEVES AU SUJET DE L'EVALUATION EN MATHEMATIQUE.

#### QUESTIONNAIRE

#### PARTIE A

*S'il-te-plaît, indique quelle est la date d'aujourd'hui :*

Date: .....

*Tu es ?*

- a) Un garçon      b) Une fille

*S'il-te-plaît, indique quelle est ta classe : .....*

*S'il-te-plaît, indique comment s'appelle ton établissement : .....*

#### PARTIE B

*A. Quelle importance donnes-tu aux méthodes d'évaluation en mathématiques?*

*Choisis le degré qui correspond le plus à ton opinion.*

*\*\*\*Note: Le nombre 4 représente le degré le plus important (ou élevé).*

*B. Met ✓ à côté des éléments qui correspondent aux méthodes d'évaluation de ton enseignant. (tu peux choisir plus d'une option).*

	A	B
--	---	---

1a. Test avec des exercices du type « compléter avec la bonne réponse »	1	2	3	4	
1b. Test avec des tâches à choix multiples (QCM)	1	2	3	4	
1c. Test avec des réponses Vrai ou Faux	1	2	3	4	
1d. Test avec des correspondances	1	2	3	4	
1e. Test avec des tâches fermées	1	2	3	4	
1f. Test avec des tâches ouvertes	1	2	3	4	
2. Participation en classe	1	2	3	4	
3. Portfolio	1	2	3	4	
4. travail à la maison	1	2	3	4	
5. projet	1	2	3	4	
6. Présentation de travaux (exposé)	1	2	3	4	
7. retour d'un camarade de classe	1	2	3	4	
8. auto évaluation	1	2	3	4	
9. entretien individuel (mettre plus de signifiant)	1	2	3	4	
10. activités individuelle	1	2	3	4	
11. activités de groupe (ou en groupe)	1	2	3	4	
12. Si ton professeur utilise d'autres méthodes d'évaluation, écris-les ci-dessous :	1	2	3	4	

### PARTIE C

*Exprime ton opinion sur les énoncés suivants, en choisissant un chiffre de 1 à 4 (1 = jamais à 4 = souvent).*

	jamais	Rarement	parfois	souvent
L'évaluation m'aide à identifier mes bonnes compétences en mathématiques.	1	2	3	4
L'évaluation ne m'aide pas à faire face à mes difficultés sur un sujet en mathématiques.	1	2	3	4
Les notes que je reçois sur un test en mathématique ne	1	2	3	4

montrent pas que j'ai compris les cours de mathématique.				
Certaines évaluations servent seulement à vérifier ce que j'ai compris sur un sujet de mathématiques, et non à me noter.	1	2	3	4
Lorsque les retours sont continus, cela me rassure et m'aide à comprendre ce que j'apprends en mathématiques.	1	2	3	4
L'évaluation en mathématiques provoque mon anxiété (ou me rendent anxieux (se))	1	2	3	4
Je me sens plus en confiance (concernant mes capacités), quand j'ai plus de retours sur mes progrès en mathématiques.	1	2	3	4
L'information sur l'évaluation me motive à me fixer de nouveaux objectifs dans l'apprentissage des mathématiques.	1	2	3	4
Quand je ne suis pas satisfait de la note que j'ai reçue pour mon travail en mathématiques, je dois faire plus d'efforts.	1	2	3	4
Les notes et les commentaires en mathématiques ne me forcent pas à travailler, quand je ne veux pas le faire.	1	2	3	4
Mon enseignant évalue nos compétences et nos connaissances :				
• Avant l'enseignement de chaque concept mathématique.	1	2	3	4
• Pendant l'enseignement de chaque concept mathématique	1	2	3	4
• Après l'enseignement de chaque concept mathématique	1	2	3	4
Après une évaluation, mon enseignant développe des tâches (des exercices) en mathématiques qui me permettront de faire face à mes difficultés dans un sujet mathématique.	1	2	3	4
Pour aider les élèves ayant des difficultés en mathématiques, l'enseignant explique de nouveau le sujet.	1	2	3	4
Sur mes travaux corrigés en mathématiques, mon enseignant fait des commentaires pour me dire ce que j'ai bien fait.	1	2	3	4
L'enseignant n'a pas de temps pour m'expliquer ce que je ne comprends pas.	1	2	3	4
Après une évaluation, mon professeur donne différentes activités en mathématique à chaque élève, afin de nous aider à promouvoir nos bonnes compétences en mathématiques.	1	2	3	4
Après une évaluation, mon professeur nous donne différents exercices en fonction de nos intérêts (envies).	1	2	3	4

Corriger mes erreurs, me permet de mieux comprendre un concept <sup>1</sup> en mathématiques.	1	2	3	4
Mes erreurs en mathématiques me découragent.	1	2	3	4
Après une évaluation, mon enseignant veut vérifier si j'ai compris les erreurs que j'ai faites.	1	2	3	4
Mon professeur utilise nos erreurs et nos intérêts pour réaliser les prochaines leçons de mathématiques.	1	2	3	4
Mon professeur de mathématiques veut être avec moi pendant que je corrige mes erreurs.	1	2	3	4
Si je fais des erreurs en mathématiques, je mérite une mauvaise note.	1	2	3	4
Je participe aux décisions concernant la manière « d'évaluer les élèves »	1	2	3	4
Après une évaluation en mathématiques, mon professeur me demande de faire une auto-évaluation de mon travail corrigé.	1	2	3	4
Sur mon travail corrigé en maths, je fais des commentaires sur ce que j'ai bien réalisé.	1	2	3	4
Après la correction de ma copie en mathématiques par mes camarades de classe, je peux reconnaître plus facilement mes erreurs.	1	2	3	4
L'opinion des bons élèves sur mes tests ou mon travail en mathématiques est plus important que l'opinion du reste des élèves.	1	2	3	4
Donnez un retour sur le travail des autres m'aide à développer mes compétences d'auto-évaluation.	1	2	3	4
La critique par les pairs permet de différencier les bons élèves des moins bons.	1	2	3	4
Avoir des élèves qui se corrigeent les uns et les autres, accroît la compétitivité entre eux.	1	2	3	4
Je préfère ne pas comparer mes résultats avec ceux de mes camarades de classe afin d'éviter leurs moqueries.	1	2	3	4
Mon professeur de mathématiques appelle mes parents :				
• <i>avant</i> mon évaluation	1	2	3	4
• <i>après</i> mon évaluation	1	2	3	4
Mes parents font des commentaires sur mes tests ou mes travaux corrigés en mathématiques, que mes notes soient	1	2	3	4

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basses ou élevées.				
Quand je suis évalué en mathématiques, je fais habituellement un travail sans savoir exactement ce que l'enseignant attend de moi.	1	2	3	4
L'objectif de mon professeur lors de l'évaluation est d'identifier mes difficultés en mathématiques et de m'aider à les surmonter.	1	2	3	4
J'ai l'habitude de discuter avec mon enseignant de ses propres attentes avant une évaluation en mathématiques.	1	2	3	4
Je préfère connaître les critères que mon professeur utilise pour mon évaluation.	1	2	3	4
Quand je sais comment et ce que je dois apprendre en mathématiques, je suis plus motivé et plus engagé en tant qu'apprenant.	1	2	3	4
Pour moi, réussir en maths signifie avoir de bonnes notes.	1	2	3	4
Il est plus important pour moi de comprendre les mathématiques que d'obtenir une note très élevée.	1	2	3	4
J'ai l'habitude de créer une liste pour vérifier mes apprentissages en mathématiques.	1	2	3	4
Si je ne connais pas les notes de mes camarades de classe, je ne suis pas capable de dire si j'ai réussi en math.	1	2	3	4
Pour réussir en mathématiques, je dois avoir de meilleurs résultats que les collègues de classe.	1	2	3	4

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## **DELIVERABLE 2.1.3: INTERVIEW PROTOCOLS FOR MATHEMATICS TEACHERS**

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### **Teachers' Interview protocol about FORMATIVE ASSESSMENT Questions and Axes of investigation**

#### **Axis 1 - Description of FA**

##### **1a) Definition/ characteristics**

- The curriculum of mathematics refers to formative assessment. What does it mean? What expectations do you think that the Ministry has?
  - Do you think that you apply this type of assessment in your classroom?
  - I will read you a statement of a teacher of mathematics and I would like you to tell me if you agree or not and why. “Yes of course, I use formative assessment. Specifically at the end of a unit I use to make a test in order to identify the level of my students and to have an important issue for their grade reports”
  - Do you think that this teacher use formative assessment?
- 
- How would you explain F.A, including a ‘what’ element and a ‘when’ element’?

##### **1b) Role and purpose of assessment**

- Mike is a mathematics teacher. When we asked him what methods does he use in order to assess his students he told us: “I use the same method for all the students, the administration of a test, because it is necessary to use the same tool for all the student in order to be more objective.” Do you agree with him or not?
- What method do you use in order to assess your students? What are the educational objectives behind the application of the different assessment methods?
- Do you use any criteria in order to differentiate your method?
- Do you use the same method for all your students or you use different methods for different students?
- Which are the students’ abilities that are assessed through different the assessment methods that you use?
- What do you think is the purpose of assessment (general and formative)?

➤ **Comment on the following myths about formative assessment. Give an example to support your answer.**

Myth: Formative assessment means giving ungraded assignments – 1a

Myth: The purpose of formative assessment is to improve teaching – 1b

Myth: The purpose of formative assessment is to help students understand teachers' goals- 1b

Myth: Formative assessment is subjective while summative assessment is objective. – 1a

## Axis 2 - Use of FA

a) **practices/techniques of assessment**

- **What test items do you usually use for students' assessment?**
- **What are the sources for providing you the different assessment methods to measure students' attainment?**
- **Which assessment techniques are the most appropriate to be used?**
- **Which of them are the most/ the least easy (2c)?**
- **What, in your opinion, can be the benefits of sharing your learning objectives with your students?**
- **Comment on the following statement:** *The central pillar in the FA framework is effective dialogue among the central participants – the students, but it is crucial that the teacher remain engaged and supportive.*

b) **factors that affect the application of different assessment techniques**

- **What are the factors that affect your choice to apply the different assessment techniques?**

c) **teachers self-efficacy in the application of different assessment techniques**

- **What test items do you usually construct?**
- **How skilled do you think you are in this?**
- **Have you been trained on the development of this skill?**

## Axis 3 - Benefits of assessment

a) **on students' learning**

b) **on quality of teaching**

- I will read you a statement and I would like you to reflect on this statement :  
I think the assessment is a stressfully process for students and teachers.  
Students feel anxiety in order to success and teachers get an additional load of work because they have to correct all this assessments and give to students grades.
  - Do you agree with him or not? Why?
- What are the negative effects of assessment on students' learning?
- What are the benefits of using the students' assessment results?
- How can you use the students' assessment results in order to success the students' greater motivation and engagement in learning?
- What FA teaching strategies do you use? How these strategies are used in a F.A classroom?

#### Axis 4 – Feedback

##### a) practices of giving feedback

- Let us suppose that you make a task on multiplication and you get the result below of two students?
- What kind of feedback would you give them (while you will discuss with them or during your instruction) in order to be formative?

Mike

$$\begin{array}{r}
 15 \\
 \times 22 \\
 \hline
 30 \\
 30 + \\
 \hline
 330
 \end{array}$$

Helen

$$\begin{array}{r}
 15 \\
 \times 22 \\
 \hline
 30 \\
 30 + \\
 \hline
 60
 \end{array}$$

- Are there any difficulties (practical difficulties: lack of time, number of students....) in order to give an effective feedback?
- What does effective feedback mean?

Two mathematics teachers are teaching functions in grade 9. The teaching of functions lasts 6 sessions. During these sessions both teachers are giving their students different function tasks to solve during their teaching. Both teachers want to know how well their students have understood the concept of functions.

*Teacher A tries to ask the students to explain him their way of thinking and describe him their process for solving the tasks. He, then, makes questions and comments about their solutions. He even asks the students to exchange their solutions between them and comment on the solution of their peers. At the end of each lesson the teacher summarizes all the comments and uses those comments in order to plan his next lesson.*

*Teacher B gives a small test (for about 10 minutes) with functions tasks at the end of each lesson, in order to check how well the students have understood the particular mathematical knowledge. After correcting these small tests, he uses these grades for giving a final mark to the students after the end of the six sessions.*

At the end of the six sessions both teachers do a final test for examining the students' knowledge regarding what they have been taught about functions.

- **Comment on the practices of each teacher regarding the assessment and feedback practices they use.**
  
- **Comment on the following statement: *The process of feedback is the starting point for FA. Yet, not all feedback is formative and therefore not all feedback is effective.***

**b) benefits on students**

- **Comment on this view about the use of feedback from students, expressing whether you agree or disagree:** *It cannot simply be assumed that when students are 'given feedback' they will know what to do with it.*
- **How can we help/train students to interpret feedback and use it in order to improve themselves?**

**c) benefits on teachers**

- ❖ **How can the learning culture be turned gradually in order to make feedback work for students?**

**Axis 5 - Participation in evaluation**

**a) students – self assessment**

- ❖ **“A teacher gives the students a list of correct answers to assess their work. As soon as they finish, the students do the assessment and deliver the assessment results to the teacher”.**

How would you judge this practice?

(In the case he disagree with this) How would you modify this practice in order to become formative?

- **Do you try to involve students in the assessment process?**
- **In what way do you try to do this?**
- **What strategies do you use for succeeding this?**

**b) students – peer assessment**

- ❖ The teacher asks the students to work individually for solving a mathematical problem. Then he asks them to discuss with a peer, in order to see each other solution and choose the best one in order to present it in the classroom. Each pair has to choose one solution and present it to their classmates.
- Do you consider this teachers' practice is including peer-assessment? If, yes, in what way? If not, how would you transform it in order to involve students in a better way in self or/and peer-assessment?
- What do you think the students' criteria would be in order to choose which solution is the better in order to present it to the rest of the class?
- Do you try to involve students in the peer assessment process?
- In what way do you try to do this?
- What strategies do you use for succeeding this?

**a) parents**

- Should parents have a role in the assessment processes and in giving feedback?
- If yes, in what way could this be achieved?

**Axis 6 - Improving assessment practices**

**a) teachers' training**

- Have you ever attended any work shop on classroom assessment techniques?
- If yes please indicate how many workshops they were.
- When was the last workshop you attended that was related to assessment methods?
- How useful were these workshops?
- Would you like to attend any assessment workshops in the future?
- If the answers is yes, please indicate on which topic(s) would you like to attend.
- In which assessment strategies would you like to be further trained?

- Other comments you want to indicate about current assessment methods of students' achievement that are used now.

#### **Axis 7 - Mathematical errors**

- From where do you believe that mathematical errors are derived from?
- How could we help a student that has a misconception or does a serious mistake in a particular mathematical concept? (in this case we can give a particular case to discuss about)

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## **DELIVERABLE 2.1.4: INTERVIEW PROTOCOLS FOR STUDENTS**

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### **Students' Interview Protocol about FORMATIVE ASSESSMENT**

#### **Questions and Axes of investigation**

#### **1. PRACTICES OF ASSESSMENT**

Two mathematics teachers are teaching functions in grade 9. The teaching of functions lasts 6 (???) sessions. During these sessions both teachers are giving their students different function tasks to solve during their teaching. Both teachers want to know how well their students have understood the concept of functions.

*Teacher A tries to ask the students to explain him their way of thinking and describe him their process for solving the tasks. He, then, makes questions and comments about their solutions. He even asks the students to exchange their solutions between them and comment on the solution of their peers. At the end of each lesson the teacher summarizes all the comments and uses those comments in order to plan his next lesson.*

*Teacher B gives a small test (for about 10 minutes) with functions tasks at the end of each lesson, in order to check how well the students have understood the particular mathematical knowledge. After correcting these small tests, he uses these grades for giving a final mark to the students after the end of the six sessions.*

At the end of the six sessions both teachers do a final test for examining the students' knowledge regarding what they have been taught about functions.

**Which teacher would you prefer in your class and why?**

**Remember your last evaluation in your mathematics class.**

**When did it happen?**

**Which mathematical knowledge was evaluated?**

**How this evaluation was conducted?**

**How did you feel about this evaluation? (during your preparation/ during the evaluation / when you received the results of your evaluation).**

**Do you believe that the results of this evaluation helped you to improve yourself in the particular mathematical content you were examined? Explain why and how.**

**Are you satisfied with the particular way you were assessed. What other ways of assessment would you prefer/suggest?**

**a. Before and During (Feedback)**

- (*in relation to the previous questions*) Does your teacher use only the particular method you mentioned before to assess you and your classmates?
- If not, what other methods of assessment does your maths teacher use in order to assess your skills and knowledge in a mathematical concept?
- When does your teacher usually assess your skills and knowledge in a mathematical concept? (before, during or after the instruction)?
- How often are you assessed in your mathematics class?
- In what form are the results of your evaluation given to you? (e.g. grades, comments, report, suggestions, discussion...)
- After an assessment, does your teacher explain/discuss with you the results of your evaluation?
- What do your teachers' comments about the assessment of your work contain? For example, does your maths teacher make comments about your mistakes only?
- What kind of strategies does your maths teacher use in order to verify that you understand a mathematical concept?
- Does your maths teacher give you the opportunity to explain your thinking while you are giving an answer?

**b. After (Feed forward)**

- When some students make mistakes during an evaluation test or other type of evaluation exercises, does your teacher refresh some lessons?
- If yes, what does he change in the new lesson? (e.g. method, tasks, feedback)
- If not, how does your teacher help the students who made these mistakes?

### **c. Differentiation**

Is the amount of feedback provided (and also of the evaluation method) from your teacher the same for all the students in your class?

Is the type of feedback provided (and also of the evaluation method) from your teacher the same for all the students in your class?

Time of evaluation

- How long does an evaluation usually last?
- Is the amount of time given the same for all the students in your classroom?
- Do you believe the teachers should give more time for some students during an evaluation?

## **2. PARTICIPATION IN EVALUATION**

### **a. Self evaluation**

- Have you ever been asked to assess your test or your work?
- After your teacher corrects your work, are you able to define your *strengths* and *weaknesses*? How will this definition of your *strengths* and *weaknesses* affect your future work (e.g motivation, effort, practices of studying, participation, ask more help from the teacher etc.) in mathematics?

Mike and Chris make a test on algebra. Mike gets 95/100 and Chris 50/100.

- a. What do these grades show about the students?
- b. If I ask you to give them an advice what would like to tell them?

### **b. Peer assessment**

- Does your teacher give you the opportunity to assess your classmates working or tests?

- Do you trust the opinion of all the students or of some of them? If some of them, is it possible to classify?

### **c. Parents**

- Does your teacher ask your parents to discuss with them about your performance and your evaluation?
- Do your parents make comments about your performance even it's good or bad?
- How do your parents' expectations affect your performance?

## **3. AWARENESS OF EVALUATION CRITERIA**

### **a. Teachers'**

- Do you always know your teachers' criteria when he is assessing you?
- Do these criteria affect your performance in this assessment and, if yes in what way?

### **b. Students' (setting criteria – defining success)**

- Mary got a mark of 75/100 on a geometry test. Do you think that she apprehends geometry well? Yes or No? Why?
- When do you think you are successful in mathematics?
- On algebra's evaluation, Mike get 95/100, Chris 55/100, Andrie 73/100 and Helen 100/100.
  - i. Are you able to tell me which of them have understood algebra better?
  - ii. Is always the success on test associated with understanding?

- In a Primary school the teacher asks the children to solve the following multiplication task:

$$1. \quad 25 \times 15$$

One child gives the following answer

$$\begin{array}{r}
 25 \\
 \times 15 \\
 \hline
 125 \\
 25 + \\
 \hline
 375
 \end{array}$$

When the teacher asks the child to specify why he has written the digit 5 (of 25) under the digit 2 (of 125) and the digit 2 (of 25) under 1 (of 125) he could not give an answer. Taking into account that he has solved this multiplication correctly, are you able to tell that he has learned multiplication efficiently?

### **Classmates' comparison**

*(in relation to the previous questions)*

Based on these students' grades, which of them seems to be the best in algebra?

Do you need to know your peers' grades in order to decide how successful you are?

Why?

## **4. BENEFITS – RESULTS OF ASSESSMENT**

### **a. Cognitive**

### **b. Affective**

- How would you feel as a student of Teacher A/ Teacher B? (axis 1)
- What do you think are the benefits from the practices of each teacher?

- Suppose that, during the teaching of functions your teacher assessed you 3 times. You got 73/100, 59/100 and 92/100. How would you feel for each of these grades?

### c. Motivation

You are about to hear two teacher's comments to a student, before an assessment. I would like to know your anticipation about this student's feelings and motives before his assessment and regarding his performance after his assessment.

- a. Teacher 1: Chris, I have observed that you study more this month and I expect that you will have better performance on this assessment because I believe that you have very good mathematical abilities and skills.
- b. Teacher 2: Chris, I have observed that you study more this month and so I expect to get high grades on this assessment.

## 5. USE OF MISTAKES

### a. Students

After your teacher points you out a mathematical mistake, what do you try to overcome this difficulty?

### b. Teacher

What does your teacher do in order to help you overcome these mistakes?

Does your teacher discuss with you your mistakes in order to understand them after an assessment?

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**The following advices were given to mathematics teachers of lower secondary school students, regarding the practices they should follow when assessing their students. Comment on these advice, expressing whether you agree or not. In the case of disagreement, please provide an alternative advice or give a relevant example.**

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- Keep students in the dark about the rules of the (assessment) game.
- Do all the assessment at the end of the learning program.
- Make sure you know the identity of the student who has done each piece of work.
- To be fair to all students, give each an identical test.
- For coursework assessments, stick firmly to your deadlines, regardless of the plausible excuses students come up with. The real world works on deadlines. If you show any flexibility, students will just take advantage of you.
- Don't be soft on any students who claim that they don't do well in exams.
- Don't indicate how many marks go with each of the parts of your questions.
- Don't give students any written feedback.
- Always plan at least some questions on material that you haven't covered with the class.
- Only look at student scripts once.
- When designing assessments, trust your first instincts.
- Stick to tried and tested methods like unseen exams.
- Don't make your questions too straightforward.
- Don't get into discussions with a class about how they will be assessed.
- Don't be tempted to include self-assessment elements.
- Don't get students peer-assessing each other's work.
- If you design a question paper that really works well, use it year on year.

*Note: These advices are too many. We have to choose the most proper and important ones.*