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Transnational Report on Testing Activity

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ABSTRACT

The present evaluation report aims to analize the testing experience of the intervention tools created in the Smild project, and provide information and reflections on the developed activities. This report collects the evaluation reports provided by all the partners of SMiLD project.
SMiLD group provided teachers a template for documenting the testing activities. This template includes some observation indexes linked to design criteria and to the educational aims of the tools, in order to collect focused data about students of the classes involved. Note that teachers selected the intervention tools to implement testing activity on the base of results of B2 test. However, it's important to remember that only some of the involved classes in testing activity administered the B1 and B2 tests, while others had not previously taken part into SMiLD project. This is due to the fact that, because of the pandemic, the testing activity of the intervention tools could not take place in the same school year as the administration of the questionnaires.

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1. Basic information

1.1 Context

In the following, the context description of the testing activity in each partners' country is presented.

UNIVERSITY OF GENOVA and Liceo Machiavelli, ITALY:
5 high-schools and 2 vocational schools, 12 teachers and 13 classes were involved in testing activity.
Students were aged 14/16 (grade 9, grade 10). There was also one class with adult students (in vocational school). On average, in each class there were 1 to 3 students with MLD and some low achievers students.
The teachers involved had high levels of professional experience (teachers-researchers, teachers with extensive professional experience).

INSTITUTO POLITÉCNICO DE BRAGANÇA, BRAGANÇA, PORTUGAL
The testing activity was implemented within a group of 21 8th grade students (aged 14-15), from 4 different classes, at the Agrupamento de Escolas Emídio Garcia, in Bragança, Portugal. The activity was carried by 3 very experienced teachers, with advanced training in education.

SP5, POLAND
Testing activity was carried out in a primary school providing general education to students aged 7-15. The school has special needs classes for students who have learning difficulties and disabilities. The school is located in Świdnik (Poland).
Teachers engaged in testing activity are math teachers with more than 20 years of experience in teaching. Totally, 6 classes were involved. Each class was about 25-28 students, 2-3 of whom were students with MLD and 4-5 low-achievers.

UNIVERSITY OF WROCLAW, POLAND
The University of Wroclaw involved in the testing a total of 3 schools, 7 teachers and 6 classes with a total of 140 students. The teachers involved were 7 (4 in mathematics, 1 in computer science and 1 in ethics, 1 in French).
Preliminary remarks: in Poland, primary school lasts 8 years and includes students from 6-7 years old to 13-14 years old, high school lasts 4 years and after the education reform in high school, has students starting from age 13-14 years at introductory and zero classes, up to 18-19 years old. Tests and tools were administered to students in the 7th and 8th grade of the primary school and to high school students in the 9th grade. Thus, students between the ages of 12 and 15 were involved. At primary school no. 73 in Wroclaw, 20 students with learning disorders (BES) were identified, as in Poland there is no specific definition for students with learning problems uniquely related to mathematics. The high school is of the general type: students can choose some characterizing subjects in their pathway, while others, such as mathematics, remain compulsory. At Lyceum, none of the 8 students involved have certifications concerning learning disorders nor problems in mathematics. The teachers involved are both early-career and experienced staff with decades of experience aged between 30 and 60.

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1.2 Activity

In the following we present the description of the activities implemented in each testing by each partner.

UNIVERSITY OF GENOVA and Liceo Machiavelli, ITALY:

On the basis of the results obtained through B2 questionnaire, we identified difficulties especially in the algebraic domain. For this, Algebra was the most investigated mathematical domain both with respect to the cognitive aspects of reasoning and memory. The intervention tools that were tested are: "Simplification of Algebraic Expressions", "Introducing how to count the value of more complex algebraic expression - Algebra" and "Problems".

Moreover, the Intervention tools with DESMOS (https://www.desmos.com/?lang=en) were frequently chosen for the testing activity for different reasons: first, DESMOS allows teachers to deal with algebra; second, it allows managing activities remotely, which is needed of because the pandemic emergency situation; finally, DESMOS allows supporting the motivational aspects, due to its dinamic approach, which is, in the period of pandemic crisis and school restrictions, a not negligible, if not fundamental, element of the educational activity.

Through B2 questionnaire some difficulties concerning domain of Arthmetics were identified above all in vocational schools students, in particular in Memory and Reasoning cognitive areas. For this, the tested intervention tools were: "Multiplying powers which have the same base" and "Arithmetical Reasoning"

In general, the intervention tools were administered in some lessons of 1 or 2 hours each. More in details, the following table shows how many lessons took place in the Italian testing activity and how they lasted.

Number of lessons	Duration of each lesson	Total hours
17	1h	17h
4	1,5h (including Monitoring tool)	6h
6	2 h	12 h
1	4h	4
Total: 28 lessons		Total: 39 hours

Due to pandemic, the actual Implementation of testing activity was not exactly the intended implementation. For instance, the choice of the intervention tools was dictated by the need to carry out the lesson remotely. Nevertheless, the tools kit of SMiLD offered a significant range of tools perfectly adaptable to the special constraints of teaching in pandemic.

Regarding the Intervention tools using DESMOS, a teacher said: "The simplicity of the articulation (not of the contents) of the activity made the actual implementation corresponding to the expected one (apart from some slight slippage of the foreseen timing, since it was necessary to acquire the fundamental knowledge of the DESMOS environment)."

The great motivation and participation of students in the lessons was another relevant educational aspect identified by the teachers in using intervention tools based on DESMOS.

Motivation, as mentioned above, was one of the aims of the educational activities to face the remote teaching.

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After analysing the results of the application of the B2 questionnaires, the area with the greatest difficulties was found in the Algebra domain. Therefore, we chose to test two intervention tools related to this area:

- *Playing with variables and algebraic expressions*
- *Scales, weights and first degree equations*

The first intervention tool (*Playing with variables and algebraic expressions*) aims at helping students with difficulties in the simplification of algebraic expressions as well as those who have trouble with the concept of variable, and it is related to the cognitive area of Memory. It was designed to be addressed to the whole class, in about 45 minutes, using manipulable tools.

The second intervention tool (*Scales, weights and first degree equations*) aims at helping students with difficulties to establish a relationship between an equation and a balanced scale and in translating the situation into mathematical language; it is related to the cognitive area of Reasoning**.** It was designed to be addressed to the whole class, during about thirty minutes, using manipulable tools.

Due to the pandemic and the fact that the schools were closed, it was not possible to test intervention tools as planned, so the implementation was made only in the beginning of January with the collaboration of the Agrupamento de Escolas Emídio Garcia. The testing activity was carried out with 21 students of 8th grade (classes A, B, F and G) that revealed difficulties in the B2 questionnaire, with the collaboration of 3 teachers.

SP5, POLAND

The tested intervention tools concerned Algebra, Geometry and Arithmetics.

Despite pandemic, polish teachers in the SMiLD project, were able to test some intervention tools in face-to-face lessons (in that period, the restrictions for the Polish school were less pressing in comparison to the other partners' countries). This allowed them to use different intervention tools with students with MLD as well.

The intervention tools were implemented as intended (online or face to face lessons)

The online lessons were 30 minutes long and the face-to-face lessons were 45 minutes long.

UNIVERSITY of WROCLAW, POLAND

On the basis of the results obtained through B2 questionnaire, we identified difficulties especially in reasoning in Algebra and Arithmetic domain, sometimes in Gometry too. The intervention tools were implemented both online and in face-to-face lessons with Groups up to 30 students. Lessons were 45 minutes long.

2. Overview

A general overview on the testing activity highlights that the intervention tools which use online applications, for example, https://www.desmos.com/?lang=pl or https://www.geogebra.org/?lang=en were a very useful material for both students and teachers. Indeed, they allowed all the students to take active part in the lesson and activate each of them as resource for the others. Moreover, these intervention tools made understanding the subject easier, especially by enabling them to manipulate the math objects on the screen. This is in line with the principles of UDL (Universal Design for Learning) which are adopted by SMiLD researchers as inclusive design model .

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The mentioned intervention tools also allowed teachers to face the need of distance teaching that in most of countries of partners was imposed by government due to pandemic.
Fortunately, the Polish partner was able to test some intervention tools with face-to-face teaching and the results were very encouraging.

UNIVERSITY OF GENOVA and Liceo Machiavelli, ITALY
Most of the time, the testing activity is carried out through distance teaching during the pandemic of 2020/21. For this, as said before, Intervention tools with DESMOS were the most frequently chosen. As matter of fact, DESMOS offers functionalities allowing teachers both to interact in synchronous lessons with students and to introduce new math concepts in unusual and inspiring contexts. Moreover, since the teaching period of the experimentation corresponded to the second school year of distance teaching, no problem regarding the use of technology raised. The teachers used the intervention tools to introduce new mathematical concepts concerning, most frequently, Algebra and Arithmetic (for instance: "equation of a line", "graph of a line in Cartesian plane", "equation and graph of a bundle of straight lines" in both a symbolic and graphical way). In some cases the intervention tools with Desmos conveyed educational approaches very far from the usual way of teaching. For this reason, teachers and students needed some lessons (generally a couple of lessons) to became more confident. But, in general, the educational approach adopted in intervention tools, recruited the students' interest and supported feedbacks exchange. In general, we can observe that students worked with interest and in collaborative way, improving their knowing about concepts being taught. In some cases, this collaboration modality progressed along the time.

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We gathered the groups of students identified through the questionnaire B2 from each class, scheduled the testing activity and prepared the required material for the application.
About the first intervention tool (*Playing with variables and algebraic expressions*), the teacher presented to the students the materials to be used and explained how the activity was supposed to be developed, explaining the concept of variable. The students repeated the exercise that have been increased in difficulty.
The students replaced the values of the variables correctly but some revealed difficulties using fractions and manipulating several variables.
There were no major difficulties in implementing the activity and the use of manipulable materials proved to increase the understanding of the concept of variable.
As the students repeated the process, the difficulties were attenuated and when they were presented to the monitoring tool, the majority of the students answered the questions correctly.
About the second intervention tool (*Scales, weights and first degree equations*), the teacher presented the materials to be used to the students as well as their symbology and gave an example.
Initially, using symbology proved to be simpler than just writing; the use of manipulable materials proved to increase the ability of translating current life situations into mathematical language and to solve equations.
In both activities, the students were very receptive and focused to the teacher's instructions, striving to perform the proposed tasks and showing interest in learning.
With the application of the monitoring tools there was, in general, an improvement in the performance of students.

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SP5, POLAND
The tested intervention tools concerned Algebra, Geometry and Arithmetic:

- *Multiplying powers which have the same base*
- *Comparing decimal numbers*
- *Supporting Memory in Geometrical Problems 1 and 2*
- *Inequalities*
- *Algebra*

3 intervention tools were tested using MS TEAMS with the whole classes during distance learning. Additionally, 3 other intervention tools were used in class in a small group of students (4-5) in each. The face-to-face classes are organised in the traditional way at school for the students who are taking their final exams in May and have difficulty learning mathematics. The new regulations which came into force in January allowed to organise such classes during the pandemic.

The intervention tools which use online applications, for example, https://www.desmos.com/?lang=pl or https://www.geogebra.org/?lang=en were a very useful material for both students and teachers. They allowed all the students to take active part in the lesson and made understanding the subject easier, especially by enabling them to manipulate the objects on the screen, change the coordinates, angles, etc. The teachers decided to use the intervention tools that don't have online resources only during the face-to-face classes with small numbers of students in a group (4-5). They prepared a lot of scaffolding so that the students could have all the support that was necessary to complete the tasks. A very important part was the immediate feedback which made the students more confident and encouraged them to try even if they didn't have the correct answer. Moreover, while working in a small group, the students felt responsible for their own learning and the learning of their peers so they helped each other and took active part in discussions. They also asked the teachers to clarify the learning objectives, which rarely happens in a big group, because they really wanted to learn.
The students worked really well with the intervention tool. A few had some initial problems with online applications, but they were quickly solved. They were also eager to see some new techniques that the teachers used to explain the new material. The intervention tools made it easier for the students to understand abstract concepts, foe example by clarifying the syntax and the structure of the language or the use of alternative language and symbols to decode information

UNIVERSITY of WROCLAW, POLAND
The testing activity was carried out both in class, through face-to-face lessons using blackboard and interactive board, and online, sharing screen and Whiteboard during students' activities. The tested intervention tools were:

- *Understand the meaning of two power properties using logical and manual capabilities*
- *Understanding the roles played by letters and numbers in Algebra.*

Teachers judged the tested Intervention tools easy to implement. Nevertheless, due to in online teaching, the functionalities of intervention tools could not always be fully utilized. Students seems appreciated unusual teaching approach that allowed them to approach math concepts through different representations and different ways to act on math objects. In particular, focusing on students with difficulties, there was a consistent improvement in

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learning. In fact, the step-by-step explanation, with graphic elements, better showed the mathematical problem, its complexity and allowed students to design the solution process.

3. Observation indexes

Indexes are linked both to design criteria (that is to the theoretical framework references) and to the educational aims of the tool. Indexes were provided to all the teachers ingaged in testing activity through a common template (see annexes).

3.1. Index linked to design criteria

UNIVERSITY OF GENOVA, and Liceo Machiavelli, ITALY:

About UDL principles guided the design of the intervention tool

Index 1: the connections between the principles of UDL and the activities in the intervention tool were successful.

Teachers identified the UDL principles as effectives during the testing activity. More in details, they identified :

- multiple means of Engagement, in particular Recruiting intest;
- multiple means of Representation, in particular option for language and symbols;
- multiple means of Action and Expression, in particular option for executive function.

About FasMed principles

Index 2: The connections between the FasMed model and the activities in the intervention tool were successful.

In particular, teachers identified the following FasMed strategies as most effective:

- clarifying learning aims and assessment criteria;
- providing feedbacks allowing students to improve hes/her learning;
- activating the students as resources for the others;
- activating the students as responsible for their own learning.

Only in few cases The FasMed strategy “activating the students as resources for the others” wasn't effective. As matter of fact, a teacher claimed: “Distance teaching did not encourage adequate discussion of the objectives and outcome of the activities”. Thus, distance teaching can be an obstacle in order to put in place effective discussion among classmates.

More generally, some teachers find some difficulties in:

- putting in place collective discussions (when they used exclusively some platforms as Meet, for instance) due to the difficulties in management of each single working group. Thus, they find difficulties providing feedbacks to each working group and of each student;
- activating students as resources for others (sometimes, not all students of the group worked collaboratively) ;
- activating the students as responsible for their own learning. When technical difficulties emerged, students often gave up.

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After analysing the document with the observation indexes linked to design criteria and to the educational aims of the tools, teachers concluded that there was a successful connection between the **principles of UDL** and that the implementation was effective.

It was expected that these activities would provide an opportunity to work the student’s self-regulation and persistence (UDL principle Engagement) as well as the skill of decoding

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mathematical language and symbols and activating background knowledge about algebraic expressions and manipulation of variables (UDL principle Representation) and the results proved that the implementation was effective to overcome math difficulties identified through the B2 questionnaire. The instructions given by the teacher were understood by the students and the use of materials provided visualization and manipulation. The activities played the role of cognitive training and this allowed students to start using representations of algebraic concepts and to place and retrieve them from long term memory in an effective way. The fact that we used activities with manipulative materials recruited students' interest and minimized threats and distractions.

About the **FasMed principles,** the involved teachers considered that the connections between the FasMed model and the activities in the intervention tool were successful.

The teachers promoted and guided a discussion among the students, asking questions, in order to conceptualize the idea of variable and of expression with variables. The discussion that arised throughout the experience of manipulating the materials allowed the teacher to informally evaluate the students' comprehension and progress and to provide them feedback, therefore allowing formative assessment. Throughout the discussion, other strategies were activated since students were able to intervene in order to express their doubts (thus becoming owners of their own learning) or to give explanations to their mates (thus becoming resources for their peers).

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About UDL principles that guided the design of the intervention tool

Index 1: there was a successful connection between the principles of UDL and the activities in the intervention tool.

The UDL principles that were particularly successful are the following:

- activating background knowledge
- offering alternative language and symbols to decode information
- clarifying vocabulary and symbols
- facilitating personal coping skills and strategies
- supporting the decoding of text, mathematical notation, and symbols

About FasMed principles

Index 2: there was a successful connection between the FasMed model and the activities in the intervention tool**.** The most effective FasMed strategies that have been used in the activities:

- providing feedback which allows students to know if they are making progress and informs them what can be done to improve learning
- rephrasing with scaffolding, which guides students' work much more efficiently and offers necessary support
- activating students as instructional resources for one another, thanks to which students could teach each other and gain more confidence

UNIVERSITY of WROCLAW, POLAND

About UDL principles that guided the design of the intervention tool

Index 1: the connections between the principles of UDL and the activities in the intervention tool were successful. Teachers identified some UDL principles during the testing activity:

- Students' Engagement, in particular Recruiting their intest;
- Different means of Representation, in particular option for language and symbols;

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- Differents ways of Action and Expression.

About FasMed principles

Index 2: The connection between the FasMed model and the activities in the intervention tool was effective. In particular:

- providing feedback, which allows students to know if they are making progress and informs them what can be done to improve learning
- activating students as instructional resources for one another, thanks to which students could teach each other and gain more confidence.

3.2 Index linked to the educational aims of the tool

UNIVERSITY OF GENOVAand Liceo Machiavelli, ITALY:

About Educational aims of the tool

Index 3: findings show that the used intervention tools were effective with respect to the educational aims at issue.

About Difficulties identified through the B2 questionnaire

Index 4: The intervention tools were effective to overcome the difficulties identified through the B2 questionnaire and in particular, they were effective to overcome some difficulties of students with MLD (for instance, concering algebraic transformation of inequalities, or transcoding process).

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About the educational aims that were considered, the tested intervention tools were effective.

The difficulties identified in B2 to which the first intervention tool (*Playing with variables and algebraic expressions***)** is directed are the simplification of algebraic expressions and the role of a variable in such an expression. B2 has several such questions, where the student is asked to simplify an algebraic expression (as is the case of questions 9 and 31) or the variable in an expression is to be replaced by a given number (for example, questions 11, 22 and 23).

Such kind of questions that fall into the domain of Algebra require that the student identifies terminology (as denominator and numerator), retrieves numerical facts and performs calculations, all skills under the Memory domain.

The difficulty identified in B2 to which the second intervention tool (*Scales, weights and first degree equations***)** is directed is solving degree 1 equations that are the core of questions like 'if a is equal to 3, what is the value of 2a+1?'(question 22 in B2).

Considering the results of the monitoring tools, we conclude that the intervention tools were effective to overcome the mentioned difficulties.

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About Educational aim of the Tool

Index 3: Findings show that the tested intervention tools were effective with respect to the educational aims at issue.

All the tested intervention tools achieved their educational aims and allowed teachers to improve students' knowledge and skills, even though some of them are low achievers and struggle with new material.

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About Difficulties identified through the B2 Questionnaire

Index 4: The tested intervention tools allowed overcoming difficulties identified through B2 questionnaire:

- grasping mathematical concepts, ideas and relations
- interpreting and using spatial organization of representations of mathematical objects
- placing numbers on a number line
- interpreting graphs and tables

UNIVERSITY of WROCLAW, POLAND

Findings show that the used intervention tools were effective with respect to the educational aims at issue and they allowed overcoming the difficulties identified through the B2 questionnaire (above all, reasoning in Algebra, Arithmetic and sometimes in Geometry).

They were effective to overcome difficulties of students with MLD or low achievers in math about, for instance, concering algebraic transformation or decomposition into prime factors.

The tested intervention tools acted through a transcoding process which allowed students to move from symbolic expressions , towards arithmetic example and also a visuo-spatial frame in order to construct meaning for the algebraic expressios and their symbolic manipulation. For instance, the visuo-spatial frame of x^2 was represented through the Construction of a square of side 2 starting from a segment of length x=2 in Geogebra

4. Analysis

After testing the intervention and monitoring tools developed in order to address learning difficulties in learning mathematics, it is important to analyse and reflect on the results.

About design of activities, we observe that the models of reference (UDL for inclusion and the FasMed approach for formative assessment) are effective to reach both inclusion aim and formative assessment aim.

Moreover, findings allow us to claim that Intervention tools are effective in teaching and learning process of students with MLD because they allow them overcoming their specific difficulties.

Related to this, findings show the importance of identification of difficulties in math for students, and above all for students with MLD. This highlighted the importance of B2 questionnaire. But also, this allows teachers to draw learning profiles for students, which are functional to the design of effective intervention tools.

More generally, SMiLD project provides teachers with intervention tools useful in teaching and learning processes but also the Guidelines to design effective and inclusive educational activities addressed to their own classes, their own students and the difficulties of each students. In other words, findings show that SMiLD project provide teachers of effective intervention tools, monitoring tools and also keys theoretical element tyo design inclusive activities.

To go into details with the findings analysis, we can focus on the kind of most frequently used intervention tools, their design caractheristics with respect to the aim of inclusion and to their connections with the FasMed model in order to design formative assessment activities.

The intervention tools focusing on Algebra that exploit DESMOS application, was the most frequently used in the testing activities. Among these, “Marbleslide: lines” and “Match my line”. These activities engage memory, reasoning, visua-spatial cognitive approaches and aks students to translate algebraic information in different codes (such as algebraic code, visual

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code in cartesian plane, mouvements on the cartesian plane by dimanic representantions). For instance, "Marbleslide: lines" activity was effective to teach and learn the lines, approaching them both as graph in Cartesian plane and as equations in algebraic simbols. In particular, the tasks have allowed all the students of the class (also students with MLD, lower achievement in math or difficulties in math) to connect algebraic expression to the graph of the line in the Cartesian Plane.

For this, teachers claims that this intervention tools are inclusive.

Indeed, As far as it concerns the connections between the principles of UDL and the tasks in the tested intervention tools, most teachers declare principles especially effective are:

- Provide multiple means of Engagement, in particular Recruiting intest;
- Provide multiple means of Representation, in particular option for perception;
- Provide multiple means of Action and Expression, in particular option for physical action (in the intervention tools mentioned, the physical action is mediated by the action on mouse).

For instance, in "Marbleslide: lines" students have to transform equation of lines so that the marbles go through the stars (https://teacher.desmos.com/activitybuilder/custom/566b31734e38e1e21a10aac8?lang=it) Students can test their ideas by launching the marbles and have a chance to revise before trying the next challenge. This modality of interaction with in the technological environment "Provide students multiple means of Engagement", and, in particular , as teachers claimed, it seems to "recruit their interest" .

In "marbleslide: lines" studets are asked to read information about line in different codes (algebraic and graphical). This affers students multiple means of representattion of the line and it provides them of multiple means of action on the line and of communication as well.

Thus, teachers judges activities with "Marbleslide:line" as inclusives.

These caracteristics have been identibied by teachers in all the aintervention tools considered for testing activity which use DESMOS as technological support and educational environment.

As far as it concerns the math contents and the way to integrate the intervention tools on the daily teaching-learning activities, we describe a teacher' s behaviour who suggests the Marbleslides activity after working a few lessons on the concept of function. To do this, she started with tasks asking to write the analytic expression of the function modeling a problem. Therefore the teacher started with an intuitive approach to move towards the formalization of the problem in algebraic simbols. At the moment she defined, both the function and direct and inverse proportionality. In order to introduce the linear function, she proposed an exercise quite familiar to the students and then she formalized it by showing them the equation of the line. She introduced m and q but she have not explained their geometrical meaning because it was the aim of the activities in Merbleslides (DESMOS). This is an example of how the activities provided with DESMOS have been integrated by teachers in their math lessons with the aim of perform the testing activity.

As far as it concerns the connections between the FasMed model and the activities in the intervention tools, teachers declare the following Formative assessment strategies have been mainly adopted :

- providing feedbacks allowing students to improve hes/her learning;
- activating the students as responsible for their own learning.

In particular the last point, is the most difficult to maintain in distance teaching modality, above all for students with MLD or low achievment in math or diffficulties in math. For this reason, once again, teachers preferred activities with DESMOS in order to activate students in their own learning supporting their interest.

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Nevertheless, despite the recruitment of interest through the activities in DESMOS, in some cases teachers identified lack of students' interest in mathematical task but rather, interest in the gaming aspect of the task . This is due, in the teachers' opinion, to the fact that the activity, performed in distance teaching, is very different from the usual math activities, so that students feeling it strongly as a playful parenthesis. This suggest us the importance of an inclusive and innovative approce, above all in the need of distance teaching due to pandemic.

Finally it should be noted that, some tested intervention tools have been modified with respect to design. This is due to the need of teach in distance. For instance, it was not possibile to freely exchange material among the students.

Concerning mathematical contents, all the tested intervention tools were very effective in pursuing the educational objectives which they were aiming at. Note that, the math topics in the intervention tools refer to a wide range of math curricula: from the core curriculum taught at primary school to curriculum taught in high-school.

In conclusion, SMiLD project faced the pandemic emergency that arose only after the design phase of the intervention tools. Fortunately, Smild project based the design of the intervention tools on solid principles and models for inclusion and formative assessment by exploiting the potential offered by digital tools (apps, software, ...). Moreover, Smild partners activated also to enhance the amount of intervention tools available, which exploited digital approaches supporting distance teaching-learning for all students and, in particular, for students with MLD.

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