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first name and surname of the evaluator

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school/centre

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position

Evaluation questionnaire
PlatMat TEACHER Tool

The survey aims to help us determine a set of functions in the EuroMath tools.

Brief description: The application serves teachers in creating, editing, collecting and searching for accessible multimedia mathematical educational resources (epub documents), sending them to pupils, receiving, correcting, returning and gathering students' work, in remote tracking of student's work on mathematical exercises (in class, at home) by displaying student's screen on the teacher's screen, for voice and text communication, also in Braille, with the (blind, low vision) student via the Internet, and in exchanging documents with a student via the Internet.

TEACHER Tool possibilities:
1. Creating and modifying (editing) mathematical formulas using the structural editor (similar to the equation editor in MS Word)
2. Creating and modifying (editing) mathematical formulas using hand editor on the laptop's touch screen (handwritten formula).
3. Creating and modifying (editing) mathematical formulas using the editor in the AsciiMath linear notation.
4. Creating exercises for learning arithmetic calculations in a written form using the CUBARITHM tool.
5. Creating exercises of the 'pairing' type (simple tests with one correct answer), with the possibility of navigating through them by blind students (available for blind students).
6. Entering and modifying explanations of formulas/exercises with text comments.
7. Recording explanations of formulas/exercises and entering them into mathematical content in the form of audio comments.
8. Precise indication of the place of error by means of a comment upon the occurrence of an error.
9. Entering and modifying units of measurement in mathematical formulas.
10. Creating and editing mathematical graphics:
    a. planimetry on the grid and in the coordinate system
    b. planimetry without a grid and/or without a coordinate system
    c. stereometry
    d. graphs of functions
    e. entering and modifying explanations of mathematical graphics for a blind student
    f. scaling the graphic grid

11. Printing of graphics:
    a. in black-print
    b. in convex printing (typhlographics)
    c. in black-print on swell paper, with the possibility of labels in Braille.
12. Transfer of graphics to .stl file for 3D printing.
13. Transfer of graphics in the jpg, bmp, png, svg and gif formats for applications outside PlatMat.
14. Inserting external graphics into a mathematical document without the possibility of modifying and labelling them in the graphic editor. Such graphics cannot have sound in the graphics navigator.
15. Printing the contents of a mathematical document:
    a. in black-print
    b. in convex printing (typhlographics)
16. Bidirectional transmission - teacher-student and student-teacher, of a mathematics document via:
    a. WiFi wireless communication in the classroom,
    b. WiFi wireless communication with WiFi HotSpot running in the teacher's computer in the classroom,
    c. the Internet outside of the classroom.
17. Publishing[1] by teachers of documents with mathematical content on the www.platmat.pl portal (sharing resources with other teachers and students)
    a. for a fee
    b. free of charge
18. Remote monitoring of the screen of a student solving an exercise (during the lesson or outside the classroom via the Internet) using the *remote desktop* function.
19. Chat with the student via the Internet by:
    a. voice
    b. text
    c. voice and text.

Please select the numbers from the above listing of the PlatMat TEACHER Tool functions, which, in your opinion, will not be useful for teachers in inclusive mathematics education in your country. We also ask for comments on how to increase usability in cases where it would be possible.

Function number	Justification of the lack of usability	Suggestions on how to improve usability

Additional remarks concerning on assistive ICT needs:

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[1] Before publishing, the resource (a mathematical document) is verified on the portal

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Usability of the PlatMat TEACHER Tool

Please cross out the points with which you do not agree.

What are the advantages which PlatMat TEACHER Tool offers to students and teachers?

1. **Providing better help to student leaning mathematics** by:
   a) sending and receiving digitalized mathematical exercises to/from the student,
   b) visual tracking on the teacher's screen the screen of a student solving exercises while using or not using Braille, and quickly responding to any student-made errors.
2. **Accelerating and facilitating teaching mathematics to visually impaired students by**:
   a) accelerating the creation of available digital educational resources (e.g. exercises, work cards) by:
      - manual writing of formulas on a touch screen,
      - generating planimetric and stereometric drawings, generating function graphs,
      - creating one mathematical document available for groups of both low vision and blind students, without the need to create two forms of documents (e.g. an enlarged black and white print and a Braille print).
   b) **accelerating the creation of educational aids** – Braille and typhlographic printouts and 3D geometrical drawings and function graphs by direct printing from the application
   c) **accelerating communication in mathematics with a blind student**:
      → the teacher can read visually student's work, also written in Braille, on the screen of his/her or student's computer,
      → the teacher/tutor who does not know Braille can help student remotely via the Internet, also the student communicating in Braille – by a voice conversation and possibly chatting in writing, while being able to view student's computer screen with exercise on his/her (teacher's) screen, or viewing the exercise previously sent by the student; the teacher can check the work send by the student and sent it back to the student after correction.

3. **increasing the effectiveness of teaching mathematics with additional educational aids:**
   a) aid 1: teacher can use an offline mode to help student working on the exercises on his/her own (at home, in the classroom), by adding to exercise formulas or parts thereof, the recorded or textual explanations which can be repeatedly played back by the student. Explanations can be in the form of references to theorems, hints of possible transformations, explanations concerning a given step towards solution, etc.

   b) aid 2: teacher can use an offline mode to help a student working on the exercises on his/her own (at home, in the classroom), by providing additional descriptions or text comments to exercise drawing or parts thereof. While viewing the drawing by a touch, the student will hears, in appropriate places, acoustic sounds of various kinds and will hear additional descriptions and comments read by synthetic speech.

   c) aid 3: ease of generating educational aids for exercises (when the student needs additional support from the teacher) - convex and 3D prints of graphs of functions and geometric figures.

4. **advantages for the teacher/tutor:**
   a) possibility of creating local database with teacher's own document, students' documents and those downloaded from www.platmat.pl portal;
   b) ease of searching and managing documents in the local database (copying, deleting, sending to a student, downloading from student, transferring to a disk or pendrive;
   c) the possibility of exchanging or selling via the www.platmat.pl portal the educational resources (documents) of one's own making;
   d) use of resources other than of one's own authorship, downloaded from the www.platmat.pl portal;
   e) the possibility of providing remote tutoring, via the Internet, to pupils with visual impairments

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date and signature