## The Third Wave Project

## Study 4: What I Find Important (in maths learning)

## Student Questionnaire

Dear student,

- There are no right or wrong answers to the questions in this international survey. Since everyone is different, it is important that your responses reflect your personal views.
- Your responses will be kept confidential.
- If you have any question anytime, please raise your hand and someone will attend to you.
- Please respond to all items.
- Thank you for your time!


## Section A

For each of the items below, tick a box to tell us how important it is to you when you learn mathematics.
 Neither important nor
unimportant
Important Unimportant


1. Investigations
2. Problem-solving $\square$

3. Small-group discussions
4. Using the calculator to calculate
5. Explaining by the teacher
6. Working step-by-step
7. Whole-class discussions

8. Learning the proofs
9. Mathematics debates

$\square$


|  |
| :---: |
|  |
| łuełıodmun <br>  |
| ұuepodmun |
|  |

10. Relating mathematics to other subjects in school
11. Appreciating the beauty of maths
12. Connecting maths to real life
13. Practising how to use maths formulae
14. Memorising facts (eg Area of a rectangle $=$ length $X$ breadth $)$
15. Looking for different ways to find the answer $\square$

16. Looking for different possible answers

17. Stories about mathematics

18. Stories about recent developments in mathematics

19. Explaining my solutions to the class

20. Mathematics puzzles $\square$

21. Students posing maths problems
22. Using the calculator to check the answer
23. Learning maths with the computer
24. Learning maths with the internet
25. Mathematics games
26. Relationships between maths concepts
27. Being lucky at getting the correct answer
28. Knowing the times tables
29. Making up my own maths questions $\square$

$\square$
$\square$
$\square$

$\square$
$\square$
30. Verifying theorems / hypotheses $\square$
$\square$
$\square$
$\square$
$\square$
31. Using mathematical words (eg angle)
32. Writing the solutions step-by-step
33. Outdoor mathematics activities
34. Teacher asking us questions
35. Practising with lots of questions
36. Doing a lot of mathematics work
37. Given a formula to use
38. Looking out for maths in real life
39. Explaining where rules / formulae came from
40. Teacher helping me individually
41. Working out the maths by myself $\square$
$\square$
$\square$
$\square$
$\square$

Unimportant

42. Mathematics tests / examinations
43. Feedback from my teacher
$\square$

44. Feedback from my friends
45. Me asking questions
46. Using diagrams to understand maths

47. Using concrete materials to understand mathematics

48. Examples to help me understand
49. Getting the right answer

50. Learning through mistakes

51. Hands-on activities

52. Teacher use of keywords (eg 'share' to signal division; contrasting 'solve' and 'simplify')

łuełцodu! К|әınןosq $\forall$ Neither important nor
unimportant
Important Unimportant

53. Understanding concepts / processes
54. Shortcuts to solving a problem
55. Knowing the steps of the solution
56. Mathematics homework
57. Knowing which formula to use
$\square$

$\square$

58. Knowing the theoretical aspects of mathematics (eg proof, definitions of triangles) $\square$

59. Mystery of maths (example:
111111 111x111111 111=12 345678987654 321)

$\square$

60. Stories about mathematicians

61. Completing mathematics work

62. Understanding why my solution is incorrect or correct

$\square$
$\square$


63. Remembering the work we have done

64. Comments (if any):


## Section B

For each pair of phrases below, mark on the line segment to indicate how more important one phrase is to you in your maths learning than the other phrase.

If you mark in the middle, it would mean that both phrases are equally important to you.

Example (non-maths):

66. How the answer to a problem is obtained

What the answer to a problem is
67. Feeling relaxed or having fun when doing maths

Hardwork is needed when doing maths
68. Leaving it to ability when doing maths $\qquad$
Putting in effort when doing maths
69. Applying maths concepts to solve a problem

Using a rule / formula to find the answer
70.

Truths and facts which were discovered

Mathematical ideas and practices we normally use in life
71.

Someone teaching and explaining maths to me $\qquad$
Exploring maths myself or with peers / friends / parents
72. Remembering maths ideas, concepts, rules or formulae $\qquad$
Creating maths ideas, concepts, rules or formulae
73.

Telling me what a triangle is $\qquad$

Letting me see concrete examples of triangles first, so that I understand the properties of triangles
74. Demonstrating and explaining maths concepts to others (e.g. proofs) $\qquad$
Keeping mathematics magical/mystical
75. Using maths to predict / explain events, that is, to stay in control $\qquad$
Using maths for development / progress
76. Comments (if any):

## Section C

A friend asks you, 'I want to do well in maths at school. What three most important things do I need in order to do well?'
What might you say?
77. Most important:
78. Second most important:
79. Third most important:

8o. I have chosen the three words above because:

## Section D

Please tell us something about yourself.
81. I am currently studying in this country:
$\square$
82. My school is located in this city/town/suburb/village:
83. My school is a (please select one)
$\square$ government school
$\square$ non-government school
84. My school is
co-educational (boys and girls)
$\square$ girls only
$\square$ boys only
85. In my class, maths is taught in $\qquad$ language.
86. At home, I speak mainly $\square$ language.
87. I am most like (please select one):
$\square$ African
$\square$ indigenous Australian
$\square$ Chinese

| $\square$ German | $\square$ Greek | $\square$ Indian | $\square$ Italian |
| :--- | :--- | :--- | :--- |
| $\square$ Korean | $\square$ Malay | $\square$ Portuguese | $\square$ Swedish |
| $\square$ Thai | $\square$ Turkish | $\square$ Other |  |

88. I was born in this country: $\square$
89. If you were born overseas, which year did you come to your current country?
90. My age is (select one):

| $\square 9$ | $\square_{10}$ | $\square 11$ |
| :--- | :--- | :--- |
| $\square 12$ | $\square 13$ | $\square 14$ |
| $\square 15$ | $\square 16$ | $\square 17$ |

91. My grade level at school is: $\square$
92. Gender (please select):
$\square$ female
$\square$ male
93. I do well in mathematics at school.
$\square$ Strongly agree
$\square$ Agree
$\square$ Disagree
$\square$ Strongly disagree
$\square$ Not sure

- End of questionnaire -

