

Teaching and Learning Practices in Secondary Mathematics
Teacher Questionnaire

Dear mathematics teacher,

You are being invited to take part in a research study run by the University of Manchester, and funded by the Economic and Social Research Council (ESRC). You have been chosen to take part because your Head of School or Head of Mathematics department has agreed to take part in this project. The project aims to provide new understandings of how mathematics teaching relates to learner engagement. For more information about the survey and the project please visit our website.

The questionnaire you are about to complete is split into two parts: the first part asks for some background information and you need to complete this **ONLY ONCE**. The second part is about your teaching with certain mathematics classes you teach. Please fill in this section for as many of your classes that are taking part in the student survey. You can do this by starting the survey again: when you respond that **you have completed the first part**, the survey allows you to then complete answers for your next class.

The questionnaire is **STRICTLY CONFIDENTIAL** but we are asking for your name to enable us to match the individual questionnaires you complete with your students' responses. Your answers will not be shared with anyone else.

By completing and returning this questionnaire we take it that you are happy to take part in this research and would like to thank you very much in advance!

Please enter your name and your school's name:

Your name

School name

Have you completed section A before?

- ☐ Yes I have, and would like to fill in section B for a new class
- ☐ No, this is my first time filling in the survey

Section A – About you and your teaching experience

What is your sex?

- ☐ Male
- ☐ Female

Which one of the following groups do you feel most adequately describes your ethnic origin?

- ☐ White British
- ☐ White Irish
- ☐ Other White Background*
- ☐ Mixed - White and Black Caribbean
- ☐ Mixed - White and Black African
- ☐ Mixed - White and Asian
- ☐ Other Mixed Background*
- ☐ Asian or Asian British - Indian
- ☐ Asian or Asian British - Pakistani
- ☐ Asian or Asian British - Bangladeshi
- ☐ Other Asian Background*
- ☐ Black or Black British - Caribbean
- ☐ Black or Black British - African
- ☐ Other Black Background*
- ☐ Chinese
- ☐ Other Ethnic Background*
- ☐ Not known
- ☐ Prefer not to say

* If other, please specify

In what year were you born?

Year

Which of the following qualifications do you have? (Tick all that apply)

- ☐ Undergraduate degree in Maths (BA, BSc)
- ☐ Joint undergraduate degree in Maths and Other Subject
- ☐ Undergraduate degree in Education
- ☐ Undergraduate degree in Engineering
- ☐ Undergraduate degree in Science
- ☐ Other undergraduate degree*
- ☐ PGCE Secondary Mathematics
- ☐ Other PGCE course*
- ☐ Other postgraduate degree (MA, MSc, not PGCE)*
- ☐ Doctorate (PhD)

* Other degree subject

If you have never taken a course in the teaching of mathematics, check the box.

- ☐ Never taken a course

How many years have you taught prior to this school year?

- ☐ 0-2
- ☐ 3-5
- ☐ 6-10
- ☐ 11-15
- ☐ 16-20
- ☐ 21-25
- ☐ 26 or more

In the last 2 years, have you received training in these areas from any source or taken part in any of the activities? (Mark one response on each line.)

	Yes	No
Trained in the use of computers and technology	<input type="checkbox"/>	<input type="checkbox"/>
Trained in the integration of computers and other technology into the classroom curriculum	<input type="checkbox"/>	<input type="checkbox"/>
Follow-up or advanced training	<input type="checkbox"/>	<input type="checkbox"/>
Taught any in-service workshops in mathematics or mathematics teaching?	<input type="checkbox"/>	<input type="checkbox"/>
Mentored another teacher as part of a formal arrangement that is recognized or supported by the school or district, not including supervision of student teachers?	<input type="checkbox"/>	<input type="checkbox"/>
Received any grants or awards for mathematics teaching?	<input type="checkbox"/>	<input type="checkbox"/>
Served on a school or local authority mathematics curriculum committee?	<input type="checkbox"/>	<input type="checkbox"/>

If you have received any other training, please specify.

When students are successful in achieving intended goals or objectives, it is often attributed to one of the following sources. In your opinion, how important is each source of success?

	Unimportant	Important	Very Important
Student's home background	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student's intellectual ability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student's enthusiasm or perseverance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teacher's attention to the unique interests and abilities of the student	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teacher's use of effective methods of teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teacher's enthusiasm or perseverance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How much do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
Most people can learn to be good at math	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You have to be born with the ability to be good at math	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

What is your email address? We may want to contact you at a later stage in the project.

Section B – About your teaching with this class

In this section, we would like you to answer some questions about how you teach a particular class.

I am completing this section for class/set:

Class name

Number of
students

Are you the only maths teacher of this class?

☐ Yes

☐ No

Which of the following best describes the ability of the students in this class relative to the other students in this school?

- ☐ Fairly homogeneous (setted) and low in ability
- ☐ Fairly homogeneous (setted) and average in ability
- ☐ Fairly homogeneous (setted) and high in ability
- ☐ Mixed ability with two or more ability levels
- ☐ Other setting, please describe

Please indicate if any of the students in this mathematics class are formally classified as each of the following:

- ☐ Specific learning difficulty (e.g. dyslexia, dyspraxia)
- ☐ Other learning difficulties (e.g. moderate LD, autistic spectrum disorders)
- ☐ Sensory and/or physical needs (hearing, visual etc.)
- ☐ Behavioural, emotional and social difficulties
- ☐ English as an Additional Language (EAL)

About how often do you do each of the following in your mathematics instruction in this class?

	Rarely	Sometimes	Often	Always
I introduce a new topic by first determining what the students already know about it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I offer content matter in gradually increasing levels of complexity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I teach each topic from the beginning, assuming they know nothing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I teach the whole class at once	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I jump between topics as the need arises	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have my students work collaboratively in pairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have my students work collaboratively in groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I teach each student differently according to individual needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I encourage students to discuss the mistakes they make	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I tend to follow the textbook closely				

	Rarely	Sometimes	Often	Always
Students work on projects in which subject material from various subjects is integrated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students decide for themselves whether it is necessary to cooperate with other students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students engage in mathematical activities using concrete materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students make formal presentations to the rest of the class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students work on extended mathematics investigations or projects (a week or more in duration)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students start with easy questions and work up to harder questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students read from a mathematics textbook in class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students use mathematical concepts to interpret and solve applied problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students play mathematics games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students work through exercises from textbooks or worksheets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students work on their own, consulting a neighbour from time to time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students choose which questions to tackle				

About how often do you do each of the following in your mathematics instruction in this class?

	Rarely	Sometimes	Often	Always
I choose examples that appeal to students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I try to indicate the value of each lesson topic for future use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When a student asks a question, I give a clue (or scaffold) instead of the correct answer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During instruction I ask a lot of short questions to check whether students understand the content matter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I assign mathematics homework	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I ask students to explain their reasoning when giving an answer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I encourage students to explore alternative methods for solutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I allow students to work at their own pace				

Think about your plans for this mathematics class for the entire year. How much emphasis will each of the following student objectives receive?

	Minimum	Moderate	Maximum
Increase students' interest in mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learn mathematical concepts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learn mathematical algorithms/procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Develop students' computational skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learn how to solve problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learn how mathematics ideas connect with one another	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prepare for further study in mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learn to explain ideas in mathematics effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learn how to apply mathematics in business and industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prepare students for standardized tests/exams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>