MULTIPLE CONCERNS

NAHT members' response to the multiplications tables check pilot

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Prior to the multiplication tables check (MTC) becoming statutory for all Year 4 pupils from the 2019–20 academic year, a voluntary pilot took place in the summer term of 2019.

NAHT conducted a survey of members who had taken part in the pilot to understand their experiences of implementing the check in their school.

NAHT is clear that it is helpful for children to know their times tables; a quick recall of tables helps with more complicated mathematical problem solving. However, schools already teach and assess times tables.

NAHT has therefore not supported the introduction of the MTC to the whole cohort of Year 4 pupils, arguing that this test is unnecessary and won't tell schools anything that they don't already know about their children.

NAHT has consistently argued that another statutory test, adding to the testing burden in schools and potentially adding to workload, is unnecessary. It is also in conflict with the Department for Education's policy to remove unnecessary workload for teachers and leaders.

Our survey data provides evidence to support this position, finding that:

- 94% of respondents said the test **did not tell them anything that they didn't already know** about their Year 4 children's recall of multiplication tables.
- 85% of respondents reported that **administering the MTC increased or significantly increased workload.**
- **Only 5% of respondents believed that this increase in workload was beneficial for children's learning.**

With the government intent on implementing the test across the full cohort of Year 4 children in 2020 at a cost of more than £5 million, NAHT has raised concerns about the accessibility of the test for children with SEND. The survey sought member views and found that:

- **Only 21% of respondents whose pupils used available access arrangements believed they enabled children to access the test sufficiently** to show their full knowledge of multiplication tables.

Many respondents experienced issues during the pilot, including finding sufficient staff time, lack of sufficient IT hardware, internet connection issues and issues with NCA tools.

- **Only 22% of respondents did not experience any issues** when taking part in the pilot.

The Department for Education and the Standards and Testing Agency (STA) must address and resolve the issues around accessibility, workload and logistics prior to full national rollout. Below is a summary of the changes and improvements required as identified by the survey's results.

Accessibility

- Address the legitimate concerns that the test results are unreliable as they are significantly impacted by IT proficiency. This may unfairly disadvantage children who do not have access to IT hardware at home as well as those who struggle to digitally input their answer.
- Make the test more accessible to left-handed pupils by enabling display of the keypad on the opposite side of the screen.
- The audible access arrangements (question reader) currently reads out the numbers as single digits (e.g one-one instead of 11). This was reported as a significant problem for those children using it. The whole number must be read out to prevent confusion and enhance accessibility.
- Many comments reported that the number keypad was arranged differently to what children were accustomed to (in the pilot the keypad starts with 1-2-3 at the top). The ability to change the layout of this keypad would be beneficial.
- Introduce an option to allow extra time to increase accessibility, particularly for children with physical or processing difficulties.

Workload and administration

- Reduce the additional workload the test brings for schools, including the time that staff are having to spend on familiarisation, supervision and access arrangements.
- Under no circumstances should schools be being advised to complete administrative tasks relating to the MTC during their evenings or at weekends.
- Improve the functionality and availability of NCA tools to remove the significant issues schools reported around system crashes, error codes, pupil logins, pupil lists, access permissions and access arrangements.
- Instructions for staff need to be clarified. Some respondents were unaware that access settings could be changed and were unclear of the difference between the 'try it out' version of the test and the actual test.
- Staff should be able to download practice PINs rather than this functionality being limited to superusers. PINs should be able to be generated before 8am. PINs timing out at 4pm was felt to add to workload as new PINs had to be generated daily.

Logistics

- Address the lack of sufficient IT hardware in schools. Schools do not have the budget to update this and the survey suggests it is a significant problem. This must take account of the suggestion that the test was easier for pupils to complete on a touch screen device rather than a keyboard and mouse. This could disadvantage pupils in schools who do not have access to such devices.
- Reports of website crashes, time-outs and unsaved data need to be investigated as a matter of priority to ensure the system can be made stable for the full rollout.
- Currently feedback suggests that logins only work on the Chrome browser – this should be investigated to ensure that schools are able to login under a range of different browsers.

Q1. The purpose of the MTC is to determine whether Year 4 pupils can fluently recall their multiplication tables. Did the test tell you anything that you didn't already know about your Year 4 children's recall of multiplication tables? *(269 respondents)*
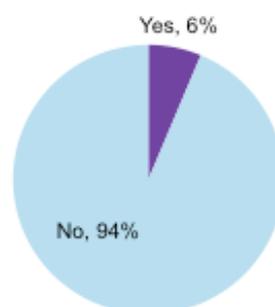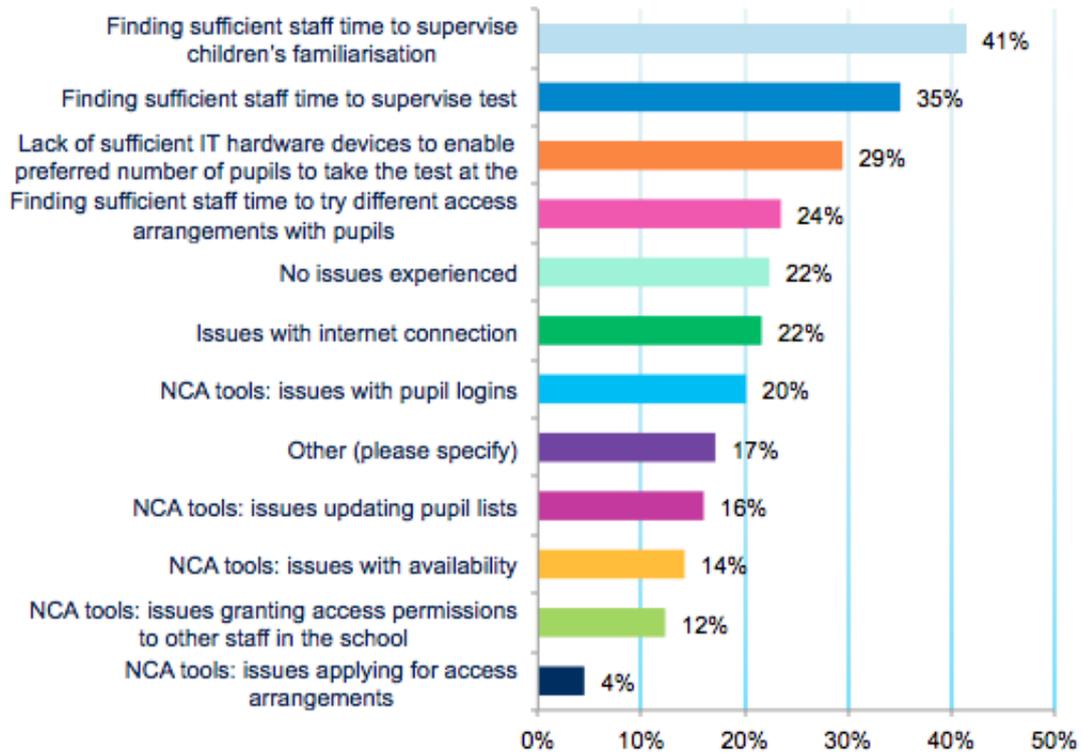
Yes, 6%

No, 94%

	%	#
Yes	6%	17
No	94%	252

Q2. Did you experience any of the following issues when taking part in the MTC pilot? (please select all that apply) *(268 respondents)*

	%	#
Finding sufficient staff time to supervise children's familiarisation	41%	111
Finding sufficient staff time to supervise test	35%	94
Lack of sufficient IT hardware devices to enable preferred number of pupils to take the test at the same time	29%	79
Finding sufficient staff time to try different access arrangements with pupils	24%	63
No issues experienced	22%	60
Issues with internet connection	22%	58
NCA tools: issues with pupil logins	20%	54
Other (please specify)	17%	46
NCA tools: issues updating pupil lists	16%	43
NCA tools: issues with availability	14%	38
NCA tools: issues granting access permissions to other staff in the school	2%	33
NCA tools: issues applying for access arrangements	4%	12

Q2. Did you experience any of the following issues when taking part in the multiplication tables check pilot?

| Issue	Percentage
Finding sufficient staff time to supervise children's familiarisation	41%
Finding sufficient staff time to supervise test	35%
Lack of sufficient IT hardware devices to enable preferred number of pupils to take the test at the	29%
Finding sufficient staff time to try different access arrangements with pupils	24%
No issues experienced	22%
Issues with internet connection	22%
NCA tools: issues with pupil logins	20%
Other (please specify)	17%
NCA tools: issues updating pupil lists	16%
NCA tools: issues with availability	14%
NCA tools: issues granting access permissions to other staff in the school	12%
NCA tools: issues applying for access arrangements	4%

It is interesting to note that three of the top four responses all relate to concerns around staff time. Another key concern that will be difficult to address is the lack of sufficient IT hardware devices reported by 29% of respondents. Free text comments later in the survey suggest that this is a considerable problem, as the test was felt to be easier to complete on a touch-screen device than with a keyboard and mouse. This is likely to skew results and disadvantage pupils in schools that do not have access to touch-screen devices. Respondents expressed concern that they did not have the budget to update their hardware.

Q3. Did any of your pupils utilise any of the following access arrangements when taking part in the MTC pilot? (Please select all that apply) *(273 respondents)*

|	%	#
Not applicable / no access arrangements were utilised	66%	181
'Next' button between questions	21%	57
Input assistance	12%	33
Colour contrast	10%	28
Question reader	10%	26
Font size	8%	22
Remove on-screen number pad	5%	14
Audible time alert	3%	8

Q3. Did any of your pupils utilise any of the following access arrangements when taking part in the multiplication tables check pilot?
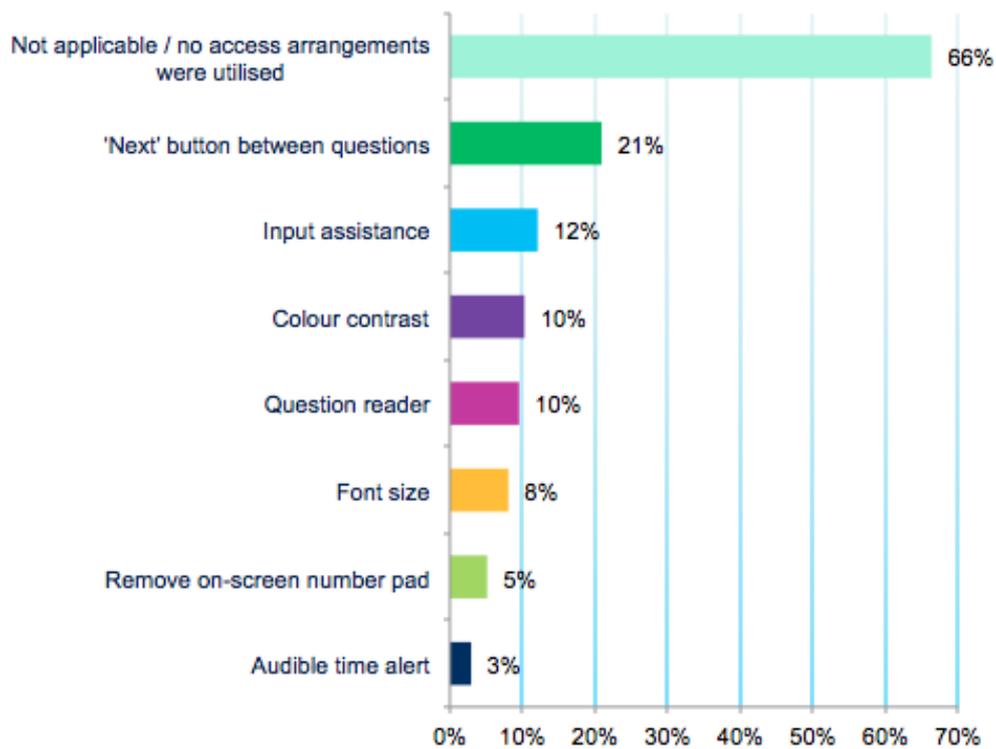
Free text comments suggest that not all respondents understood that they were able to apply access arrangements and wanted clearer instructions. The 'question reader' used by 10% of respondents is arguably not fit for purpose as it reads full numbers as single digits (for example 'one-one' instead of '11')
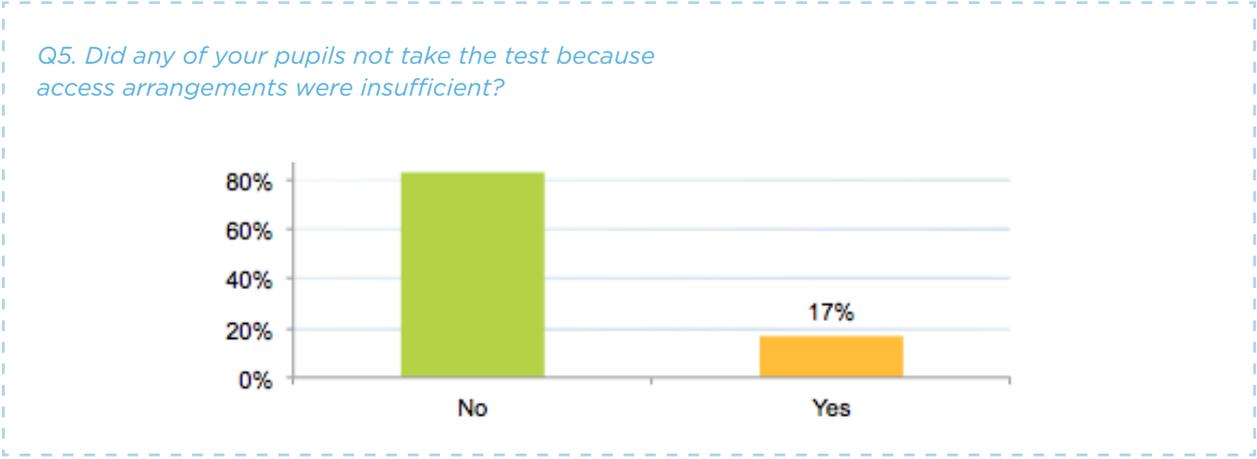
Q4. Did the access arrangements enable the pupil(s) to access the test sufficiently to show their full knowledge of multiplication tables? *(264 respondents)*

	%	#
Don't know / not sure	48%	127
No	31%	82
Yes	21%	55

Q4. Did the access arrangements enable the pupil(s) to access the test sufficiently to show their full knowledge of multiplication tables?
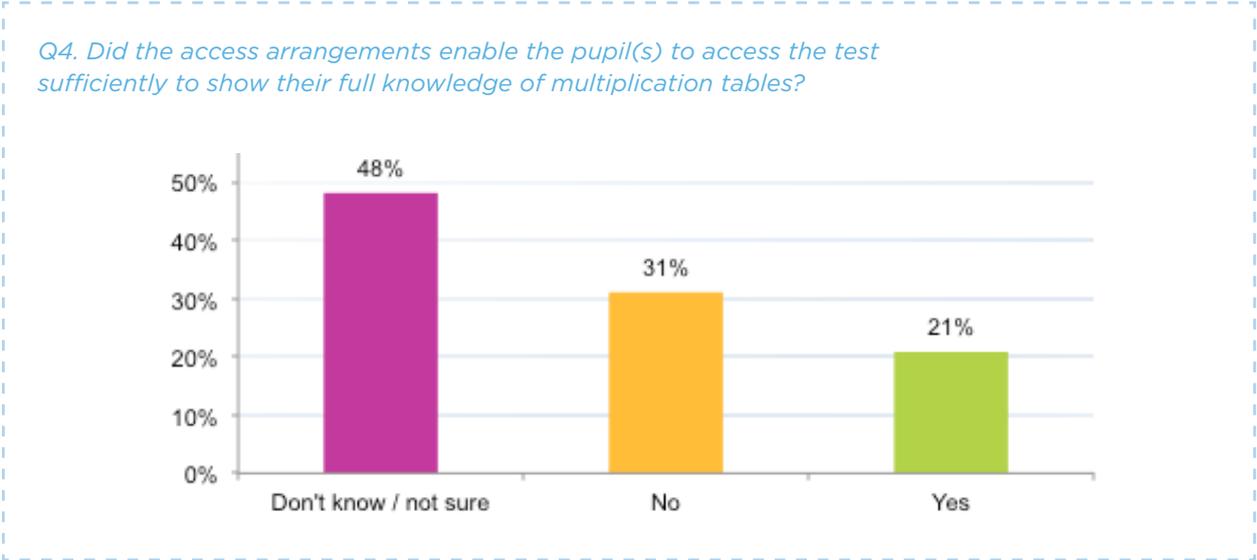
Q5. Did any of your pupils not take the test because access arrangements were insufficient? *(268 respondents)*

	%	#
No	83%	223
Yes	17%	45

Q5. Did any of your pupils not take the test because access arrangements were insufficient?

Q6. Would any additional access arrangements have enabled the pupil(s) to access the test? *(44 respondents)*

	%	#
No	57%	25
Yes	43%	19

Q6. Would any additional access arrangements have enabled the pupil(s) to access the test?
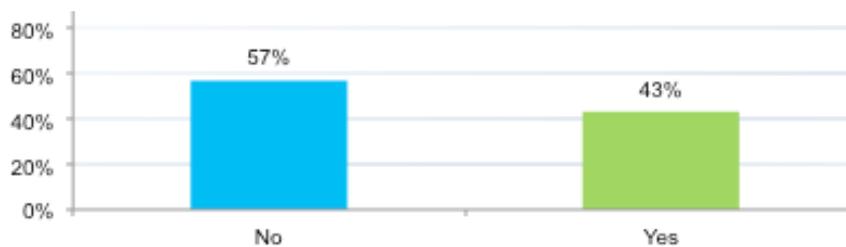

It is worth noting that only a small proportion of respondents answered this question (44). Of the 19 respondents who indicated that additional access arrangements would have enabled the pupil(s) to access the test, the majority (68%) suggested that the option to allow for extra time would have been useful. This was felt to be particularly necessary for some children with physical or processing difficulties.

- "The time limitations for children with physical needs were a barrier to children accessing the test."
- "Our EHCP pupils still could not cope with the timings for questions. Although they had the 'next' button, they got incredibly distressed when the sum expired. They need 10 seconds rather than six seconds."
- "More time to rely less on hand-eye-ear co-ordination than on actual knowledge of times tables."

Q7. What impact, if any, did administering the MTC have on workload in your school? *(267 respondents)*

	%	#
Administering the MTC significantly increased workload	12%	32
Administering the MTC Increased workload	73%	196
Administering the MTC had no impact on workload	15%	39
Administering the MTC decreased workload	0%	0
Administering the MTC significantly decreased workload	0%	0

Q7. What impact, if any, did administering the MTC have on workload in your school?
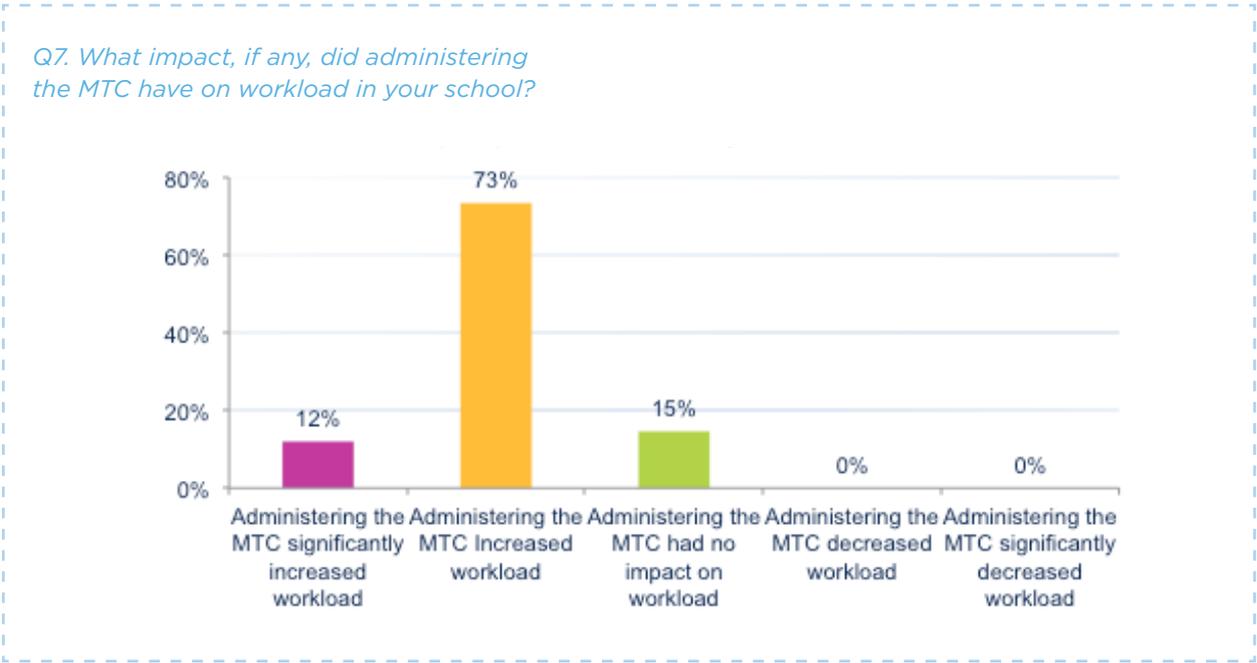
The large majority (85%) of respondents reported that administering the MTC increased or significantly increased workload. Just 15% reported no impact on workload, while no respondents whatsoever reported any associated decrease in workload.

Q8. Which of the following activities relating to the administration of the MTC caused increases to workload in your school? (please select all that apply)

(226 respondents)

	%	#
Administering the test	85%	193
Allowing pupils to use the 'try it out' feature to familiarise themselves with the check	81%	183
Time on NCA tools	74%	168
Timetabling tests	62%	140
Staffing	56%	126
Grouping children to take the test	40%	90
Work with pupils to identify access arrangements	24%	54
Other (please specify)	4%	8

Q8. Which of the following activities relating to the administration of the MTC caused increases to workload in your school?
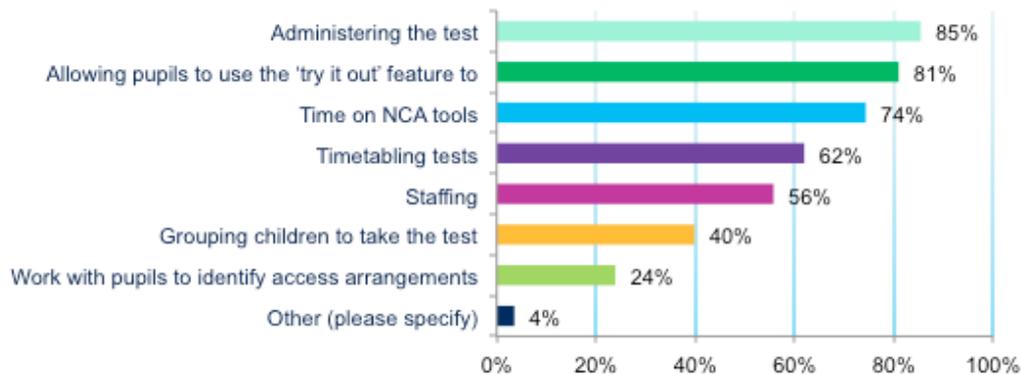

The concerns raised under the 'other' option include:

- "Practical IT arrangements; we have no IT suite."
- "Having to email head teacher for daily logins."
- "PINs did not all work and had to generate new PINs daily until all had completed the test."
- "We didn't have the opportunity to practice for many of the children; we had to organise Chromebook delivery and set up with an IT company."

The fact that 74% of respondents cited "time on NCA tools" as a cause of workload increase suggests that significant improvements need to be made to this system. Free text comments later on suggest that respondents experienced crashes and error codes, were unable to disapply pupils and were having to generate new PINs daily.

Q9. Do you believe that this increase in workload was beneficial for the children's learning? *(225 respondents)*

	%	#
No	86%	194
Don't know / not sure	9%	20
Yes	5%	11

Q9 Do you believe that this increase in workload was beneficial for the children's learning?
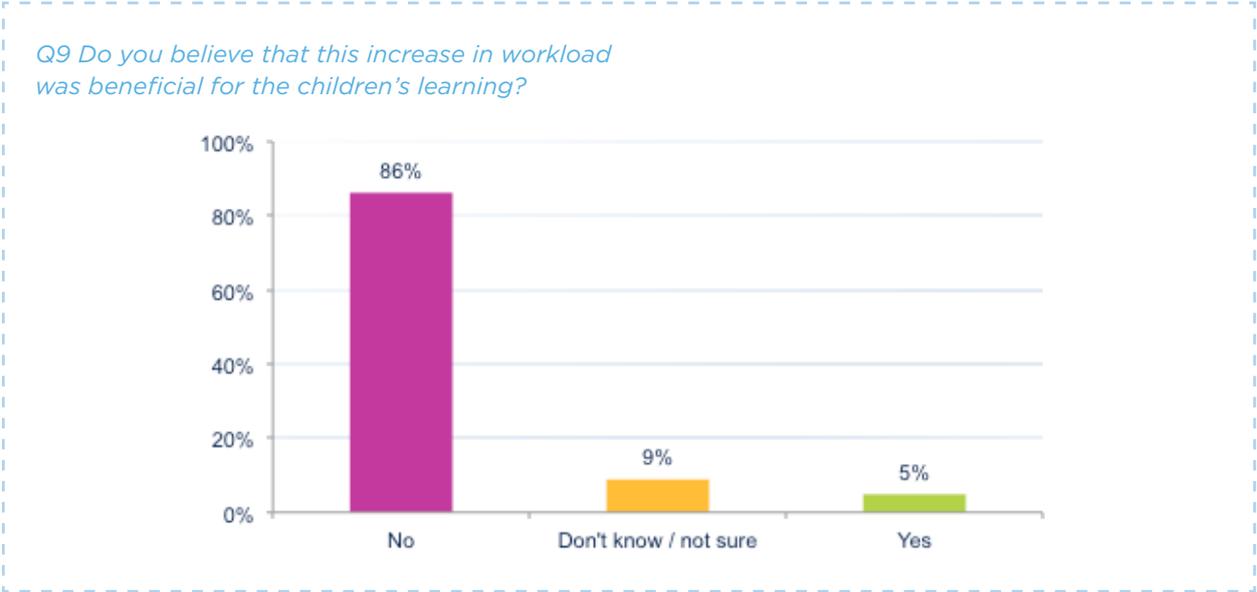
Q10. Do you have any other comments to make about the MTC pilot?

Concern that the test does not measure multiplication tables knowledge

An analysis of the 145 answers received suggests that the most commonly raised concern was that the test does not accurately or properly measure multiplication tables proficiency. Some respondents felt that it was simply a measure of IT proficiency – with more IT-proficient children being more able to quickly grasp the software and accurately input their answers. Some respondents raised concerns that disadvantaged children who do not have access to IT hardware at home may be unfairly disadvantaged in comparison to children who regularly have access to computers or tablets at home.

Many respondents noted that some children struggled to quickly and accurately input their answers within the short six second time limit. In this respect the test measured only the speed with which children were able to mentally recall and digitally input their multiplication table knowledge, not their actual knowledge of multiplication tables.

Multiple comments reported that children "panicked" or "went blank" when the time limit ran out before they were able to input their question. Some children with particular types of SEND may be particularly disadvantaged by this short limit.

Sample comments:

- "The test should not be a test of a child's ability to negotiate a computer or tablet. A number of our children found the pressure of reading a question, computing the sum, recalling the answer and inputting the answer into the tablet too much. The timing element is unfair on those children with some learning needs who could have scored higher with more time. Fluency in recall is one thing but fluency in recall alongside fluency in computing skills makes the test an unfair process."

- "The timed questions were not a true reflection on some of our pupil's fluency. Having watched them taking the test, some were a fraction of a second outside of the time limit but they had the correct answer. Does that mean that they don't know their times tables or does it mean that they were slightly too slow to type it in? What does fluency mean? Some children were very stressed taking the test and panicked."

- "It was a test of ICT skills rather than maths. Some children who knew all their times tables struggled to input the answers in time so scores were much lower than when completed on paper. Some children inputted '21' rather than '12' but had no time to alter. It caused extra stress to the children. The children believed that it would have been fairer if completed on paper or if an adult could input the answers once told by the child."

- "Children with significant impairments, such as visual, performed below expectations due to time constraints. In a normal situation these children would be allowed extra time."

Test doesn't tell staff anything new

The next most common comment was that the test did not tell staff anything they did not already know. This echoes the findings of question one (where 94% of respondents agreed with this). The free text comments repeatedly raise that "Times Table Rock Stars" is a more engaging and useful test that provides richer data than the pilot.

Sample comments:

- "If there is no threshold to meet and we are not getting the specific data about which tables they couldn't answer and there is going to be no follow up, it begs the question of why we are doing it. Times Table Rock Stars provides richer data and we know the actual gaps."

- "We do daily tables practice anyway, and from this teachers easily identify pupils in need of help. This test will only serve as yet another means to hold me to account and increase my staff's workload. Finally, with the huge array of accountability measures now spread across the primary years, it sends an even more depressing message to teachers about how often they'll be measured and held to account by narrow, curriculum-warping tests that do nothing to improve teaching quality."

- "It's so limited. Children who can bark answers to tables aren't mathematicians. We integrate tables teaching seamlessly with division and fractions, so children understand what tables are actually for and how knowing the facts can help them. This exercise was a complete waste of time and money."

- "No actual results or analysis to the teacher so I had no information about how they performed."

School IT concerns

A number of comments were raised by respondents about the IT equipment in their schools not being suitable to run the MTC on. It was felt that it was easier to input data using a touchscreen rather than a keyboard and mouse; however not all schools had touchscreen devices available and children in these schools may therefore be disadvantaged compared to children who were able to access the test via touchscreen.

Some school keyboards did not have keypads on them so would need updating or replacing to be able to use this functionality.

The check did not run on some normal classroom tablets. Poor internet connection hindered access for some schools.

Sample comments:

- "The laptops we used hindered speedy responses. We will need to buy and use upgraded equipment with touchscreens to enable the children to reflect their ability and answer very quickly."
- "Pupils have multi use of touchscreen at home; this is not the case at school. The use of keyboards definitely slowed responses."
- "The combination of the timed test and using ICT with a poor internet connection caused distress for some of the children. Pupils who I know are fluent in their tables knowledge did not perform as well due to having to use unfamiliar ICT equipment, as the check would not run on their normal classroom tablets."
- "The outcome did not reflect the children's ability due to the need to use a keypad. Our keyboards don't have them so I would have to upgrade all of them to do the test with a negative budget as it is!"

Test design

Members reported that some children were confused by the orientation of the number keypad, which was different to the layout used in commonly used programmes such as Times Table Rock Stars.

The positioning of the keypad was not as easy to access for left-handed pupils and the 'back' button was confusing for children. The audible access arrangements are not currently fit for purpose as numbers are read out digit by digit ('one-zero' instead of '10').

Respondents were frustrated that they were unable to access the results of the test to see the areas needed for improvement, or to identify whether incorrect answers were due to input error.

Sample comments:

- "The design of the test itself, what was displayed on screen was dull and uninspiring."

- "The number keypad is the opposite way round on iPad to most of the times tables programmes that children use day to day, such as Times Tables Rock Stars. This slowed them down. There needs to be the option to have the keypad in a different orientation

- "Compared to Times Tables Rock Stars the children found it quite dull."

- "The children who had the audible access arrangements were thrown somewhat by the digits being read as single digits as the answer. 11 was said as 'one-one'. This made the children think they had got it wrong. The back button was quite confusing for the children and took too much time to use."

- "Not a child-friendly interface – clunky and old fashioned."

Website and system-related IT concerns

Numerous network and system problems were reported by respondents. Some respondents were repeatedly unable to access the website due to the high volume of traffic. The login process was felt to be very long, and at various points in the process respondents were met with numerous different error codes.

Others reported that access codes repeatedly did not work, and that children's test scores were not saved. A repeated comment was that it was frustrating to have to repeatedly log in and repeatedly download practice PINs. Respondents felt that staff needed to have superuser access – currently a member of SLT needs to print PINs off daily which is inconvenient, and some felt added to a feeling of pressure on class teachers.

Children could not be disapplied while they had active pins and the helpline suggested that this process be completed in the evening or at a weekend.

The system relies heavily on a quality network service that isn't available everyday or in every school.

Sample comments:

- "Trouble with PINs to login. Children's test scores did not save so had to redo the test. Only top keypad on keyboard worked, not side keypad. Not enough time to correct answers if an error realised."

- "It was not a satisfactory experience for our school. I was constantly on the phone to NCA tools regarding logging children on and there were numerous issues."

- "It was frustrating having to log on every day to download practice PINs and tests."

- "Issues with the registration initially and removal of pupils who had left. Could not remove a pupil who had been absent during the test. Had to ring NCA tools website for help and was on hold for 27 minutes having been cut off twice before."

- "Access was horrendous. Nowhere could I find why I couldn't log on. Turns out you need Chrome. NCA tools times out so had to write PINs down!"

- "It was complicated having all the PINs on NCA tools as staff access is limited. It also meant that it was less easy for class teachers to take ownership of administering the test to their own children and meant SLT had to be involved. I believe this added to some feeling of pressure on class teachers."

- "You couldn't disapply children while they had active PINs – this was most of the school day! The helpline suggested I did this in the evening or at a weekend! They asked me why I was disapplying – I said it was because the child was absent and it was the last day of the test. They asked why I generated a PIN for them and I pointed out that I didn't know they were going to be away when I generated PINs at 8am. Fundamental misunderstanding of how schools work.

- "You couldn't disapply a child who failed to complete the test, if there was no time for them to retake it. None of the reasons for disapplying made sense for a child who thought they had finished the test, but the register didn't record them as having completed. You had to wait until after 4pm when the PIN expired (which it didn't on several days because the backend to the administration site was running slowly – confirmed by helpdesk), then mark them as a restart, by which time they had gone home!"

- "Head teacher constantly having to be asked to log on and get the new passwords. These change daily; after 4pm it closes down and cannot be accessed so can sort on an evening ready for the next day when you are likely to have more time to do it."

The survey received 273 responses and was open from 10 June 2019 to 09 July 2019

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