

# **OUTSTANDING TEACHING, LEARNING AND ASSESSMENT**

**FINAL REPORT ON THE OTLA PHASE 7 (ENGLISH) PROJECT –  
USING VISUALISERS**  
**Suffolk New College**

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For further information regarding the OTLA Phase 7 (English) programme and this project go to <https://ccpathways.co.uk/practitioner-research/otla-7/>.

The programme was delivered on behalf of the Education and Training Foundation by -



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# Final report - Using Visualisers

## Suffolk New College

This project aimed to explore the use of visualisers to enhance the learning experience of learners studying Functional Skills Maths, GCSE Maths and ESOL.

### Summary

Suffolk New College is a large, mixed, further education college with its main campus located in central Ipswich. There are also smaller campuses located in Otley, Leiston and Halesworth.

The maths team consists of 16 teaching staff, an Instructor, Skills Facilitator, a Curriculum Coordinator and Head of Maths. The ESOL team consists of three full time, two part-time teachers and a Head of ESOL.

The project set out to build on the success of a similar research programme undertaken at the College by the English team as part of OTLA 6 (Hubbard, 2020) which demonstrated how visualisers can be effective in modelling the writing process on GCSE English resit programmes. We were keen to explore whether similar benefits could be experienced by teachers and learners on maths and ESOL programmes.

### Rationale

Our initial focus for the maths strand of our project was to explore the use of visualisers in providing effective demonstrations for learners of how to approach multi-step questions. Many learners seem to tend to lack stamina when answering this common exam question type and would frequently give up. This had been identified in the previous academic year as an area of weakness, with our current cohort also displaying a very similar trend. This weakness in problem solving could of course be attributed to the fact that exams across Functional Skills and GCSE maths had not taken place in the academic year of 2019 -2020 and teaching time had been heavily curtailed.

Within our ESOL team there was a recognition that learners often come to the college with no knowledge of the English alphabet, and some are unable to even write in their native language (See appendix 6). Getting used to writing the English alphabet can present a huge challenge, and we were keen to see if the modelling of some of the basic skills of writing and letter formation could be demonstrated effectively using a visualiser.

### Approach

After an initial joint planning meeting we worked collaboratively throughout the project, meeting regularly in a three-way dialogue involving English, Maths and ESOL teams, using Padlet (Appendix 3) and Google Drive to share our findings and resources. Each team also held half termly reflection and evaluation sessions.

At the start of the project, we arranged for ESOL tutors to have training sessions in using a visualiser and set up peer observation opportunities with those members of the English team who had become confident in using visualisers so that we could build on their expertise.

In the maths department, we decided to run a CPD session at the start of the project which was led by our co-ordinator and aimed to upskill staff in teaching the problematic multi-step questions. To measure the success of this training and to monitor the impact of the use of the visualisers in maths we decided to record question-by-question tracking (see Appendix 5) to measure improvement in the learners' ability to improve their approach to these questions.

However, whilst we set out to evaluate the use of visualisers in face-to-face teaching in the classroom, as the year progressed, we realised that our plans would be affected by the various levels of lockdown and by the decision to move our maths and ESOL teaching programmes to online delivery.

In the maths department we reconfigured our classrooms with dual monitors and cameras to aid in online delivery which meant that there was much less of a need to use visualisers as many of the online learning platforms contained applications such as Jamboard, Google Docs for live marking, and PowerPoint which could be annotated at the point of exemplification. We found using these platforms covered the scope of what a visualiser could be used for and therefore it added unnecessary technology to the online lesson. One teacher commented:

*"They add another piece of technology to the lesson that becomes clunky as switching between cameras can be tricky".*

In light of the move to online delivery our Skills Facilitator and Head of Maths began to utilise visualisers to create a bank of video resources that students could use to revise key calculations. These video resources featured demonstrations of how to tackle multi-step exam questions and were made available in a resource bank on Google Classroom.

In contrast, for a period in the autumn term our ESOL lessons continued to be offered in the classroom under social distancing restrictions and we were able to continue to trial the use of visualisers. We found that one of the benefits of using visualisers was that they enabled teachers to provide detailed demonstrations of basic writing skills such as how to hold a pen and construct letters but without the need for teachers to work closely with a learner at a desk.

## Professional learning: Evidence of changes in teaching, learning and assessment practices

Before we embarked on this project the use of technology to enhance learning was limited. In some ways the pandemic lockdown has meant that the use of technology to enhance learning generally has become a necessity rather than just a desired outcome and our use of visualisers has been an integral element of a process which

has seen us also explore never-before utilised applications such as Google Classroom, Google Meet and Hangouts.

We have been sharing good practice using Padlet and Google Drive, through regular team meetings and via individual discussions between the project members. We have also acquired new skills in the creation of revision videos using a visualiser that capture handwritten calculation strategies and can be more engaging to learners (see below). The use of visualisers for this purpose enables those who struggle the most to see step-by-step breakdowns of multi-step questions using a familiar handwritten process and at a flexible pace.

15 There are only red buttons, yellow buttons and orange buttons in a jar.  
The number of red buttons, the number of yellow buttons and the number of orange buttons are in the ratio 7:4:9

Work out what percentage of the buttons in the jar are orange.

R : Y : O  
7 : 4 : 9

$\frac{9}{20} \xrightarrow{\times 5} \frac{45}{100} = 45\%$

The image shows a whiteboard with a math problem and its solution. The problem asks for the percentage of orange buttons in a jar with a ratio of 7 red, 4 yellow, and 9 orange buttons. The solution shows the ratio 7:4:9, then focuses on the orange part (9) over the total (20), and multiplies both numerator and denominator by 5 to get 45/100, which is 45%.

2 Mick completes a total of 5 assessments for his course.  
He gets these marks.  
56 42 47 59 48

Mick needs an average mark of 50 or more to pass the course.

Does Mick pass the course?  
Show a check of your working

Use the box below to show clearly how you get your answer.

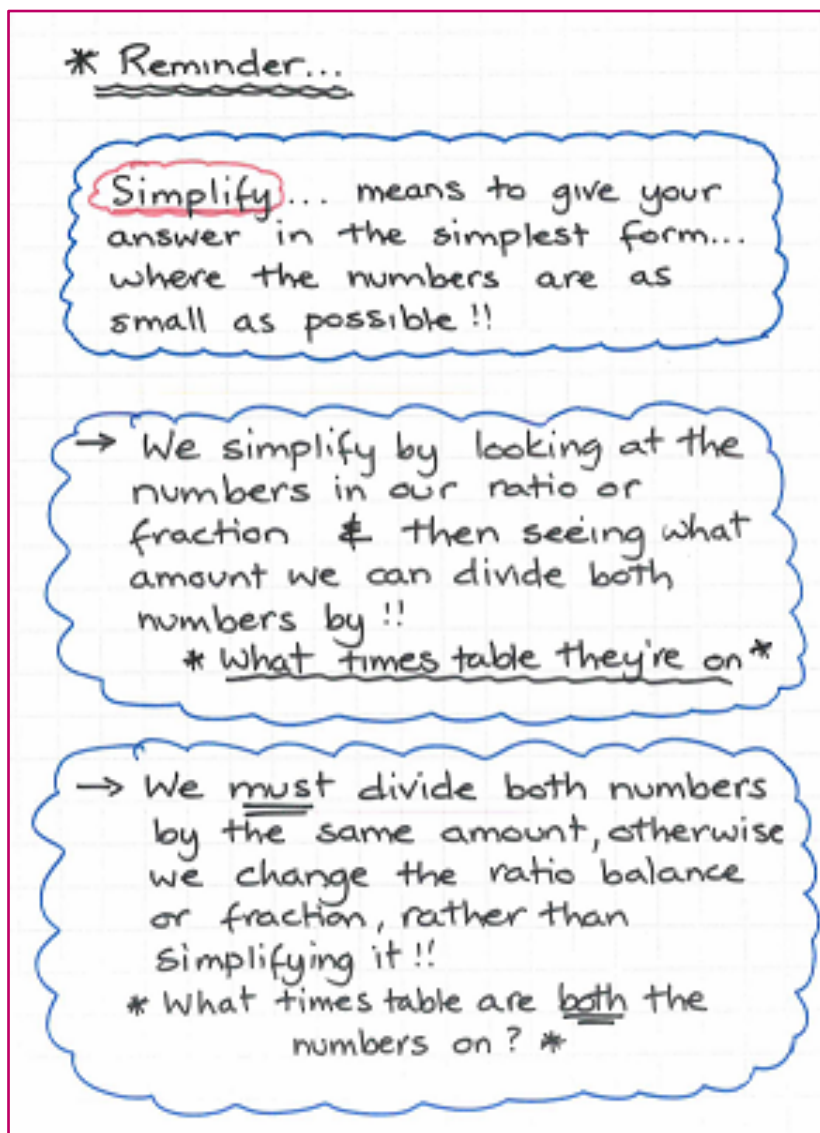
Mean (+ and ÷)

$56 + 42 + 47 + 59 + 48 = 252$

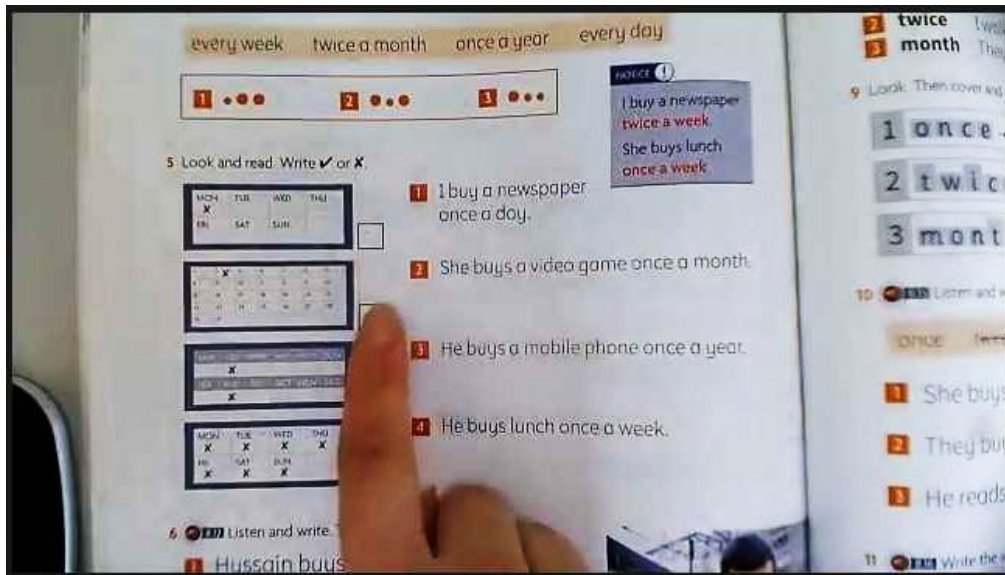
$252 \div 5 =$

The image shows a digital workspace with a math problem. The problem asks if Mick passes a course based on his marks (56, 42, 47, 59, 48) and a required average of 50. The solution shows the calculation of the mean: (56 + 42 + 47 + 59 + 48) / 5 = 252 / 5.

This type of video resource can be especially beneficial for learners who have additional support needs as it provides them with a flexible level of scaffolding. Teachers also valued the opportunity to create and share handwritten notes (see below) for future reference, ensuring that individuals can reflect and revisit topics independently. Our Skills Facilitator and Instructor have been using the visualisers to enhance the experience of learners who have opted for extra support in their maths studies - 'I am able to share workings and guidance with learners at their own pace'.



Using visualisers in our ESOL and Pre-Entry ESOL lessons has allowed staff to model where students need to add information to forms, and additionally, how to exemplify good handwriting, letter formation and holding a pen. (See Appendix 6) One of our Pre-Entry ESOL teachers has used it to display handwriting on the interactive whiteboard (IWB) and then add extra information such as where to use full stops and capital letters, how to form capital letters and how to write left to right forming letters from the left. Having the handwriting displayed on the IWB with the visualisers means that it can be annotated and underlined to highlight key points. They were also useful in maths classes for ESOL learners (see below) .



## Evidence of improved collaboration and changes in organisational practices

There has been a notable increase in the use and expansion of modelling using a visualiser since the project's inception, and this is now a key feature of our ESOL and Pre-Entry ESOL lessons which are delivered both remotely and in person. The Head of ESOL has also been talking to colleagues in the SEND department as there are similarities in the range of basic writing skills that sometimes need to be modelled and developed in additional learning support provision. We intend to collaborate with the SEND department in the near future and share what we have learned during the project.

We learned a great deal from the English department's involvement in the original OTLA 6 project and have been able to build on their expertise, and the three-way collaboration between teachers in the maths, English and ESOL departments has been invaluable in sharing good practice and exploring different ways in which visualisers and digital technology can be used.

## Evidence of improvement in learners' achievements, retention and progression

Maths teachers involved in the project used a tracking spreadsheet to measure progress between assessment points and allowed teachers to log marks per question on assessments, which then break down the skills into individual area for feedback (see Appendix 5).

Data captured as part of the initial assessment (assessment point 1) indicated that only 19% of learners had gained marks on multi-step questions. In comparison, assessment point 2 (October half term) indicated that 84% of learners had gained marks on multi-step questions. This increased further at assessment point 3 (December) which indicated that 97% of learners had gained marks on multi-step questions. It should also be noted that as the assessment points progressed, the complexity of the multi-step questions increased (see Appendix 4 for sample questions).



Assessment Point	What the data showed
1 – Initial Assessment	19% of learners attempted multi-step questions
2 – October Assessment	84% of learners attempted multi-step questions
3 – December Assessment	97% of learners attempted multi-step questions

Learner feedback was also useful in measuring and gauging the effectiveness of the visualiser use in classes. Such comments as ‘It is so much easier to follow the stages of a question when you show us with the visualiser’ and ‘I find it so helpful with the diagram questions on area and perimeter’ reinforce this. Within ESOL the learners quoted ‘I like to see the teacher write’ and ‘All the class see my work and I was happy’.

### Learning from this project

Our use of visualisers this year has enabled us to adapt to the various changes in delivery models that we have had to introduce in response to the different levels of lockdown during the pandemic.

- When used in face-to-face classes, visualisers have been invaluable in providing live practical demonstrations that have an engaging informal appeal and which can be recorded to provide valuable bespoke revision resources for learners to use in exam preparation.
- During the period of online delivery of maths lessons other online platforms such as Jamboard and Google Meet provided whiteboard features and functions like those offered by visualisers and so our visualisers were used mainly to record a bank of revision videos that have proven to be very useful for learners in exam preparation.
- When maths teachers returned to the classroom, they were able to resume their use of visualisers to give live practical demonstrations and these were found to be particularly useful, especially in exploring tasks with a strong visual aspect such as those involving diagrams, area, perimeter, nets of shapes.
- In ESOL teaching visualisers have been particularly useful with pre-Entry ESOL learners who need support with early writing skills such as letter formation, form filling and handwriting generally. They have also enabled teachers to quickly share pages from a textbook or a piece of realia with a group which has meant that teachers can be more flexible in their lesson delivery and more effective when they cover for other teachers at short notice.
- During the period of classroom based ESOL delivery under social distancing restrictions visualisers also enabled teacher to give close up demonstrations without approaching learners at their desks.

The use of visualisers within the maths and ESOL lessons to support learning has brought about a fundamental change in the departments. Prior to this project there was limited use of learning technology. Most often PowerPoint was the only tool we used. Now, given that these visualisers have proven their worth, they will be utilised in lessons throughout the year for a wide range of purposes and in varied contexts.

# References

Costly, K. (2014) *The positive Effects of Technology on Teaching and Student Learning* Arkansas Tech University {online} available at <https://files.eric.ed.gov/fulltext/ED554557.pdf> [Accessed 04/03/2021].

Chaucer School (2018) *Effective Modelling* {online} available at <http://www.chaucer.sheffield.sch.uk/images/schoolimprovement/tla/modelling.pdf> [Accessed 03/03/2021].


Hubbard, L. (2020) *Final report on the OTLA 6 project - Visualise...With a Visualiser.* {online} available at <https://ccpathways.co.uk/practitioner-research/otla-6/project2/2a/> [Accessed 01/03/2021].

## Appendix 1 – The project team

Project Role	Name	Job Role
Project Lead	Mark Pluck	Head of Maths
Deputy Lead	Suzy Haynes	Head of ESOL
Project team	Louisa Hubbard	Head of English
	Brittany Kuhn	Interim Curriculum Coordinator English
	Juliet Yager	English Lecturer
	Candy Stuart	ESOL Lecturer
	Sarah Nagra	ESOL Lecturer
	Martin Willis	ESOL Lecturer
	Fisti Reynolds	ESOL Lecturer
	Chris Edwards	Curriculum Coordinator Maths
	Simon Castle	Maths Lecturer
	Gill Headworth	Maths Lecturer
	Jason Seales	Maths Lecturer
	Rosanna Bird	ESOL Lecturer
	Chris Gilbert	Director of English, Maths and ESOL
	Carol Fuller	Maths Lecturer
	Stefan Gugura	Maths Instructor
	Emma Bennett	Maths Skills Facilitator
	Sarah Murphy	ESOL Lecturer
	Sylvester Peprah	Maths Lecturer
	Daniel Senah	Maths Lecturer
Project Mentor	Helen Hewlett (ccConsultancy)	
Research Group Lead	Bob Read (ccConsultancy)	

## Appendix 2 - Examples of handwritten calculations captured on a visualiser

KEEP AN EYE ON THE UNITS!



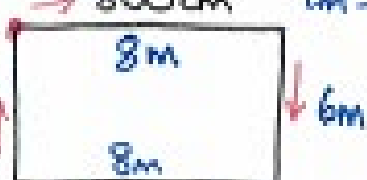
$100\text{ cm} = 1\text{ m}$   
 $(500 \div 100 = 5\text{ m})$

- Convert units. So we're working in the same unit throughout!
- Find missing sides
- Add them all together

$500\text{ cm} = \underline{5\text{ m}}$

$5\text{ m} + 3\text{ m} + 5\text{ m} + 3\text{ m} = \underline{16\text{ m}}$

\* .

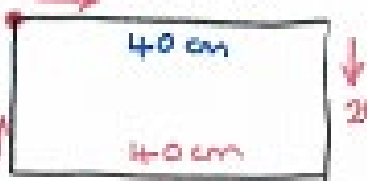


$100\text{ cm} = 1\text{ m}$   
 $800\text{ cm} = 8\text{ m}$

- Convert
- missing sides
- Add together.

$8\text{ m} + 6\text{ m} + 8\text{ m} + 6\text{ m} = \underline{28\text{ m}}$

$= 28\text{ m} \checkmark$



$1000\text{ mm} = 1\text{ m}$   
 $10\text{ mm} = 1\text{ cm}$

$\frac{1000}{10} = 100$   
 $\uparrow$   
 $10\text{ mm}$

Answer in cm

- convert mm to cm

$400\text{ mm} + 20\text{ cm} + 40\text{ cm} + 20\text{ cm} = \underline{120\text{ cm}}$

$400 \div 10 = \underline{40}$

how many lots of 10 there is in 400

20th November



Harry buys a motorcycle for £2000. He pays for it over 4 equal monthly payments.

$$£2000 \div 4$$

How much does he pay each month?

$$£500$$

$$\begin{array}{r} 0500 \\ 4 \overline{)2000} \end{array}$$

A pie is cut into 6 equal slices. One slice is eaten.

What fraction is left?

$$\frac{5}{6}$$



Take 1 piece away

$$\frac{5}{6}$$

Write down the 15th odd number  
odd... ends with 1, 3, 5, 7 or 9

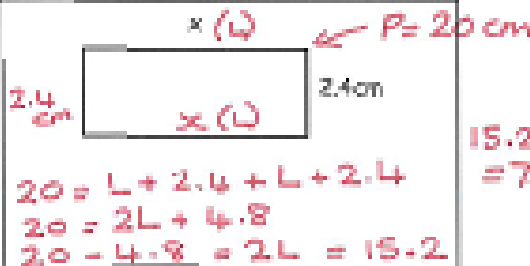
even... ends with 0, 2, 4, 6 or 8

- 1, 3, 5, 7, 9, 11, 13, 15,  
17, 19, 21, 23, 25, 27,  
29

$$(29)$$

The perimeter of the rectangle is 20cm.  $P = L + w + L + w$

Find  $x$  = Length of side  
 $= 15.2 \div 2$   
 $= 7.6$  cm



$$15.2 \div 2 = 7.6 \text{ cm}$$

There are 8200 fans at a rugby match between Bath and Newcastle.

3600 of the fans are female.  
The rest of the fans are male.  
 $\frac{1}{4}$  of the male fans support Newcastle.

1150 male fans support Newcastle

Work out how many male fans support Newcastle.


How many male fans?  
8200  
- 3600  
4600

4600 male fans  
 $\frac{1}{4}$  support Newcastle  
1150  
4  $\overline{)4600}$

# Appendix 3 – Padlet

padlet  
Mark Pluck + 9 • 1m  
**OTLA - Visualiser Project**  
An opportunity to note down and create discussions on the successfulness of the visualisers to enhance delivery.

**OTLA Project using visualisers to enhance teaching of maths and ESOL**



2

**ESOL**

I used it to show writing on the line vs through the line.

Also due to the poor configuration in some of the rooms I can't write on most of the board so I used it to write examples down and they were shown on the board. It was good to write it rather than type it as it showed letter formation.

And then in E1A I used it to show an example of an excellent note written by Sarkar. He was very proud of himself and also it showed the difference between what some people had managed to write in 15 minutes against what he had achieved.

1

**Use in maths**

Utilised the visualiser in a cover session. This does remove the issue of inserting mathematical symbols on a word doc or powerpoint.

MP - Maths

**FYI**

You need to ensure that it is focused and it works better when you use a fine marker pen as it can be seen by learners more easily.

MP - Maths

0

**Demo of methods**

Good for showing how to set out answer. Look mirror on screen, but is right way round for students.

JS - Maths

0

**Standardisation Tool**

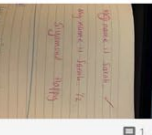
Used for assisting in standardising assessment marking and demonstrations.

MP - Maths

0

**Examples of writing demonstrations for students to see**

GH - Maths



1

**1:1 maths**

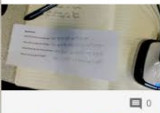
Has been a useful tool whilst working from home so I can go over methods with students at their own pace. Using the camera on my page during 1:1 sessions I am able to demonstrate ordered workings out to aid my students comprehension.

0

**Showing excellent work Pre-esol A**

Showed this as a good example to other students. And also could show error correction as well.

ESOL SJN



0

**Maths for methods**

Very effective in demonstrating a method online to learners.

Use felt tip pens to ensure it is clearer for the learners. Learners made good progress as they were able to see how a problem was solved.

MP - Maths


0

**Revision Videos**

Revision videos will be launched that have been recorded using a visualiser...

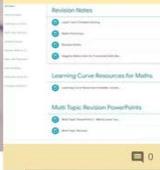
**Revision video**

Exempla of video...



**New revision page for maths**


Page available through google classroom for functional skills learners - contains videos created using the visualisers



0

**Walkthroughs - Maths**

Will be used to create a video on breaking down the question in maths to share with learners.




0

**PRE-ESOL C**

These are some pictures of the use of the visualiser to show pages of the textbook when I taught understanding basic instructions to my PRE-ESOL C group today. I find it really useful as I need to show the students the actual page of the text book to elicit vocabulary of basic instructions and the method to understand the basic instructions on the page. My lesson went very smoothly.

FR-ESOL




0

**PRE-ESOL C**

Teaching understanding basic written instructions using the visualiser.

FR-ESOL




0

**PRE-ESOL C**

Delivering class feedback on handwriting skill. The visualiser helps me provide good positive and constructive feedback. It is also very useful for showing students how to form letters correctly and how to write neatly on lined paper.

FR-ESOL




0

**PRE-ESOL C**

Delivering class feedback on handwriting skill using the visualiser.

FR-ESOL



0

**Vocabulary ESOL**

Used it to write out vocabulary after a spelling test. Could show writing on the line, letter formation and didn't have to take off what had been written on the whiteboard.

SJN

0

**Maths use**


Will look into creating revision videos of walkthroughs of exam questions.

0

**Functional Skills Maths**

Used my Visualiser as a 'camera' when I've been explaining nets with my E3/L1 groups this week :o) Worked really well!

CF - Maths



0

**Functional Skills Maths**


I have been using the Visualiser as a replacement for the SmartBoard - where I can go through a topic & make notes... then scan the notes & upload them to the relevant Google Classroom :o)

CF - Maths

0

**Using during online lessons**

Can show model answers and correct letter formation and placement



1

**light**

Initially the light on the visualiser was useful for clarity on the camera, but it has now dimmed to a point where it is ineffective. I have had to add a poised lamp to my working area so the image is clear.

0

**Videos**

I have been able to use the visualiser to make some short maths videos which I am able to share with students for guidance on exam questions.

0

## Appendix 4 – Sample of Multi-Step Questions from Assessments

### Assessment point 1 – Initial Assessment Sample Questions

Amina buys a car. The cash Price is £17,500. Amina pays a deposit of 20% of the cash price. She then pays £250 a month for 5 years. How much extra does she pay compared with the cash price.

A charity sends an appeal letter to 3000 people. The letter asks for a donation of money.  $\frac{1}{2}$  of the people who were sent the letter made a donation. Their average donation was £8.60. How much money did the charity receive?

$\frac{1}{3}$  of the people who made a donation filled in a tax form. The government adds 25% to the donations of these people. How much EXTRA will the charity receive through this?

### Assessment point 2 – October Assessment Sample Questions

Diaries are sold in boxes of 12  
Pencils are sold in boxes of 10  
Rulers are sold in boxes of 6

A teacher wants to buy the same number of diaries, pencils and rulers.

Work out the **smallest** number of boxes of each item he could buy.

Ajit is a barber.

He charges £5 for a haircut.

He charges 10% extra for hair gel.

One day 52 customers have a haircut.

16 of these ask for hair gel.

Work out the **total** amount that Ajit charges his customers that day.



A cinema has

37 rows of seats  
23 seats in each row.

Adult tickets are £8 each.  
Child tickets are £6 each.  
The cinema has sold tickets for every seat.

The manager estimates that £6400 was raised from these tickets.  
200 child tickets were sold.

Check whether the manager's estimate was close to the exact amount of money raised.

### Assessment point 3 – December Assessment Sample Questions

*In an office there are twice as many females as males.*

$\frac{1}{4}$

*of the females wear glasses.*

$\frac{3}{8}$

*of the males wear glasses.*

*84 people in the office wear glasses.*

*Work out the number of people in the office.*

*Billy wants to buy these tickets for a show.*

*4 adult tickets at £15 each*

*2 child tickets at £10 each*

*A 10% booking fee is added to the ticket price.*

*3% is then added for paying by credit card.*

*Work out the **total** charge for these tickets when paying by credit card.*

# Appendix 5 – Sample of Tracking Sheet for Maths

Extract of tracking

Person C	Surname	Forename	Group	Tutor	Personal email	GAPS	Q1	Q2a	Q2b	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11a	Q11b	Q12	Q13	Q14	Q15	Q16	Q17																								
123456	Example	Example	Group	Teacher	<a href="mailto:Example@email.com">Example@email.com</a>	<a href="mailto:Example@email.com">Example@email.com</a>	1	2	0	2	2	0	2	2	1	2	5	3	1	1	2	0	0	5	5	36	100	65%	3	0%	50%	100%	38%	100%	64%	100%	100%	33%	58%										

# Feedback Sheet example



## GCSE Maths Assessment Feedback

Oct 2020

My name is: Example  
 My student number is: 123456  
 My tutor is: Teacher  
 I am in group: Course Code

Question number	Topic	Available marks	What I scored
Q1	Decimals	1	0
Q2	Fractions, decimals & percentages	4	1
Q3	Fractions & percentages	7	7
Q4	Multiplication	2	2
Q5	Division	1	1
Q6	Addition & subtraction	2	1
Q7	Division	2	2
Q8	Bidmas	2	2
Q9	Multiplication of fractions	2	2
Q10	Common multiples	3	3
Q11	Multiplication, addition & percentages	5	4
Q12	Rounding	3	3
Q13	Multi-step	6	6
<b>My Total -&gt;</b>		<b>40</b>	<b>34 marks / 85%</b>

**4** This means that in this assessment I achieved a **GRADE:**

My performance in key topics was:

	Addition & subtraction	Multiplication	Division	Fractions, percentages & decimals	Bidmas	Rounding	Multiples	Multi Step Problems
Available marks	2	15	3	12	2	3	3	17
My scores ->	60%	83%	100%	87%	100%	100%	100%	84%



## Appendix 6 – Case Study: Pre-Entry ESOL

DM is a male Unaccompanied Asylum Seeker (UASC) from Iran and his first language is Kurdish Sorani. He arrived in the UK in July 2020 aged 17 unable to read or write in Kurdish and had never been to school before. Attending college was his first experience of formal education and he was a very keen and conscientious student even though on arrival he lacked the basic skills of even holding a pen. He is not too sure of his final career, but he has expressed an interest in a career in mental health or health and social care, possibly linked to his experience of some mental health issues linked to past traumas.

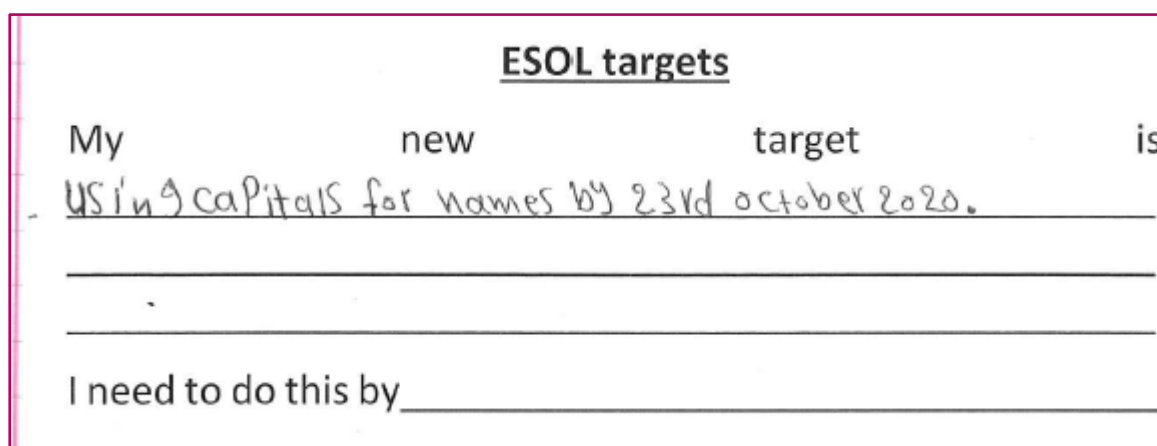
We couldn't conduct an initial assessment was not possible as DM was unfamiliar with the alphabet and could not read or write in English. Also, because he had never been to college before, everything was new. He is also living independently and responsible for all his own cooking, shopping etc.

Our sessions began with basic phonics and letter formation, and it was here that the visualiser was particularly useful due to social distancing limitations. In the classroom under Covid restrictions teachers were not able to approach the student to show them how to hold a pen and form letters, so by using the visualiser we could demonstrate individual letter formation, pen holding and writing on the lines.

Lockdown presented an additional obstacle to the Pre-Entry ESOL students attending synchronous lessons via Google Meet. However, the ESOL teacher was still able to use the visualiser to model handwriting even though there was a technical issue with using it with Google Meet at first.

We noticed that the student became more confident in holding a pen and made good progress in forming letters and numbers clearly and correctly on the page, all of which was made possible by careful modelling using the visualiser. DM achieved his qualification and DM was so enthused by his progress that he is now attending extra fast-track lessons. He will progress to an Entry 1 ESOL qualification next year.

### At beginning of the course



The image shows a handwritten target on a grid background. The text is written in black ink. The title 'ESOL targets' is underlined. The main text reads: 'My new target is using capitals for names by 23rd October 2020.' Below this, there are two blank lines. At the bottom, it says 'I need to do this by' followed by a blank line.

ESOL targets

My new target is

using capitals for names by 23rd October 2020.

I need to do this by \_\_\_\_\_



**At the end of the course**

**ESOL targets**

My                      new                      target                      is

To be able to use  
articles correctly  
in my writing

I need to do this by By 24<sup>th</sup> May

Achieved  

## Appendix 7 – Reflections of a maths teacher

I am employed by Suffolk New College as a maths lecturer; my role includes teaching full time and part time GCSE maths and Functional Skills maths to ESOL learners.

The initial introduction of the visualiser into sessions enabled tutors to demonstrate their own workings out/diagrams and relay these images onto a SMART screen in actual time. Learners were able to follow systematic instructions with guidance. Videos clips available on YouTube that demonstrate mathematics are often recorded at a pace that some learners often cannot follow and so the use of the visualiser by the tutor to record a demonstration of a handwritten calculation can be of real benefit.

Initially in late Autumn 2020 all learners were receiving face to face sessions. However, COVID-19 restrictions minimised attendance so we offered a blend of face-to-face classes for ESOL learners and online for both full and part time GCSE learners. The visualiser worked well in the classrooms using the college IT connections. However, in October 2020 all of our face-to-face sessions were moved to online delivery and teachers who were working at home reported various technical difficulties with the visualisers when using their own PC systems. Problems with distortion or delays meant that visualisers made them much less ineffective as a teaching tool. However, those tutors who went into the main campus to use the college PC support system were able to use visualisers during the three months lock down period and have continued their use throughout 2020,

I used visualisers in my work with pre-ESOL, 16 - 18-year-old learners, studying Entry Level 1 Functional Skills Maths. These students were high needs learners who required one to one learner support with a reader and frequent interventions to enable them to make progress in basic language and maths skills. The use of visualisers enabled me to use diagrams and pictures much more easily and flexibly in my teaching. As these learners had a different cultural background, they often used handwriting, maths notation and calculation strategies that were different from those used in English speaking countries e.g. the method of writing from left to right in English and the reverse for some African and Middle Eastern countries. These learners particularly appreciated the use of a visualiser during class demonstrations as it was possible to model in close up handwriting practices at a much slower pace than the usual.



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