University of Roehampton London

Education Technology and the Core Content Framework

NEN Conference
19 October 2023
Prof Miles Berry

Ed Tech in general

Presentations

AI, accessibility and inclusion

Quizzes

Data

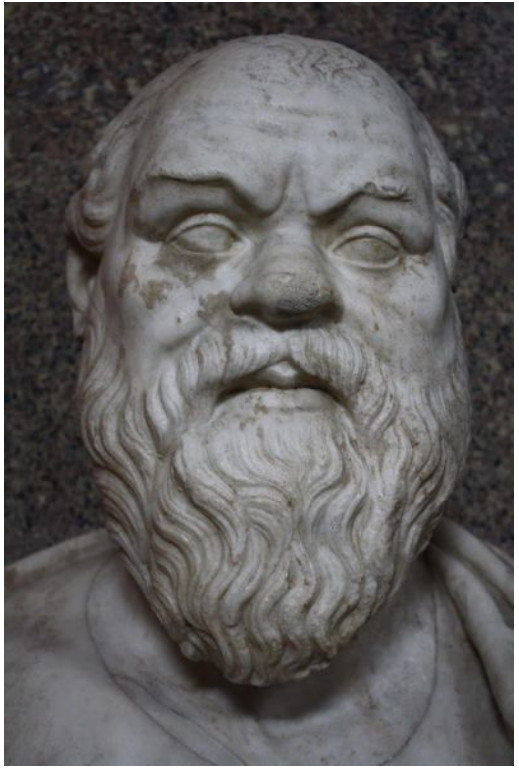
Ed Tech

Name the technology!

You provide your students with the appearance of wisdom, not with its reality. Your invention will enable them to hear many things without being properly taught, and they will imagine that they have come to know much while for the most part they will know nothing. And they will be difficult to get along with, since they will merely appear to be wise instead of really being so.

Socrates on writing

It will introduce forgetfulness into the soul of those who learn it: they will not practice using their memory because they will put their trust in writing, which is external and depends on signs that belong to others, instead of trying to remember from the inside, completely on their own. You have not discovered a potion for remembering, but for reminding; you provide your students with the appearance of wisdom, not with its reality. Your invention will enable them to hear many things without being properly taught, and they will imagine that they have come to know much while for the most part they will know nothing. And they will be difficult to get along with, since they will merely appear to be wise instead of really being so



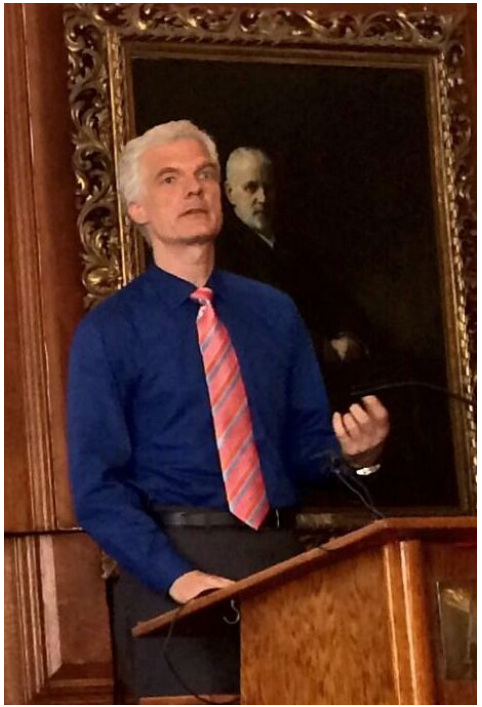
Plato, c. 370 BCE

Steve Jobs, 1980

From 9m8s to 10m24s

Working together

"School systems need to find more effective ways to integrate technology into teaching and learning to provide educators with learning environments that support 21st century pedagogies and provide children with the 21st century skills they need to succeed in tomorrow's world. **Technology is the only way to dramatically expand access to knowledge.** To deliver on the promises technology holds, countries need to invest more effectively and ensure that teachers are at the forefront of designing and implementing this change"

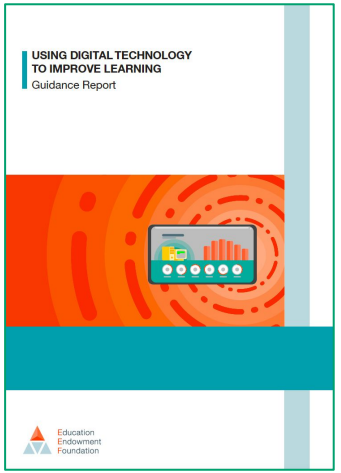


Schleicher, 2015

The old EEF Toolkit

1. Effective use of digital technology is driven by learning and teaching goals rather than a specific technology: the technology is not an end in itself. You should be clear about how any new technology will improve teaching and learning interactions.
2. New technology does not automatically lead to increased attainment.
3. How will any new technology support pupils to work harder, for longer, or more efficiently, to improve their learning?
4. Pupils' motivation to use technology does not always translate into more effective learning, particularly if the use of the technology and the desired learning outcomes are not closely aligned.
5. Teachers need support and time to learn to use new technology effectively. This involves more than just learning how to use the hardware or software; training should also support teachers to understand how it can be used for learning.

Recommendation 1	Consider how technology is going to improve teaching and learning before introducing it
Recommendation 2	Technology can be used to improve the quality of explanations and modelling
Recommendation 3	Technology offers ways to improve the impact of pupil practice
Recommendation 4	Technology can play a role in improving assessment and feedback



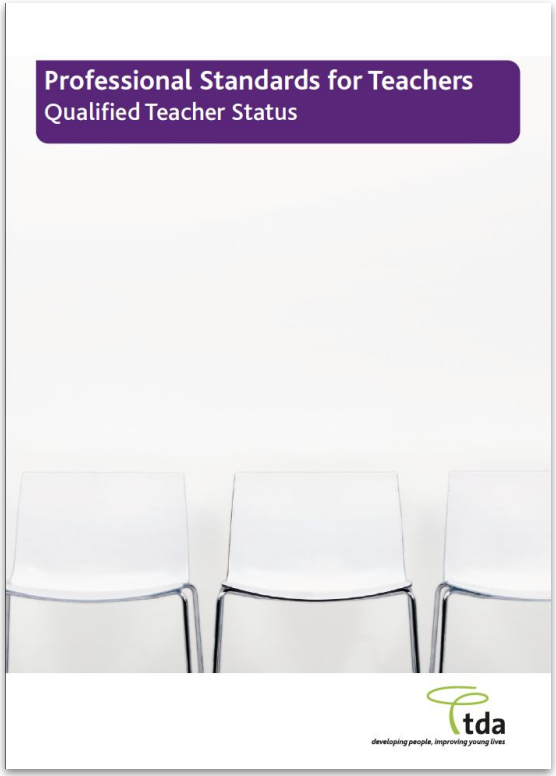
Back in 2007…

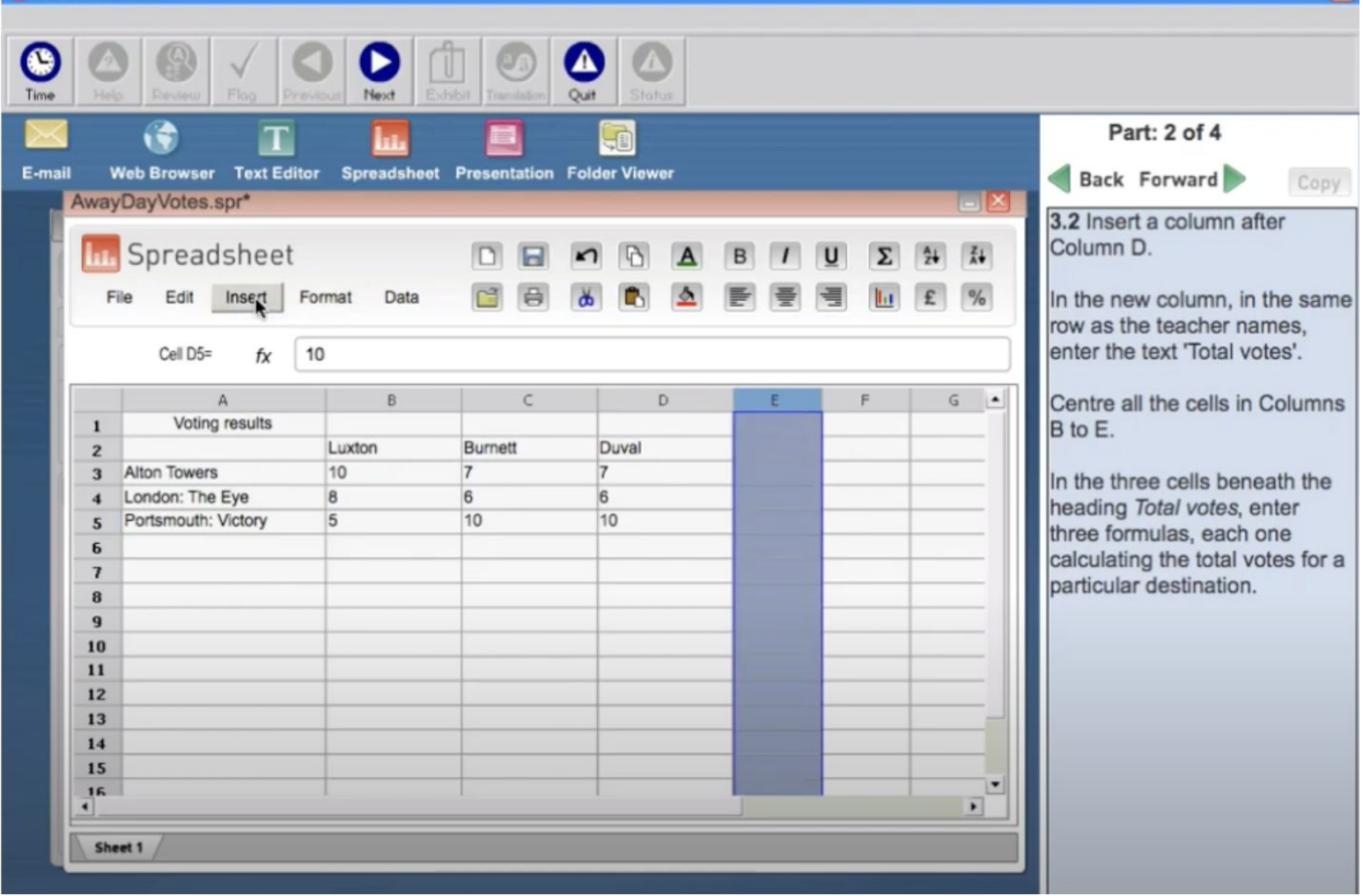
Literacy, numeracy and ICT

Q16 Have passed the professional skills tests in numeracy, literacy and information and communications technology (ICT).

Q17 Know how to use skills in literacy, numeracy and ICT to support their teaching and wider professional activities.

Q23 Design opportunities for learners to develop their literacy, numeracy and ICT skills.




Time
Help
Review
Flag
Previous
Next
Exhibit
Translation
Quit
Status
E-mail
Web Browser
Text Editor
Spreadsheet
Presentation
Folder Viewer
AwayDayVotes.spr*
Spreadsheet
File
Edit
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Data
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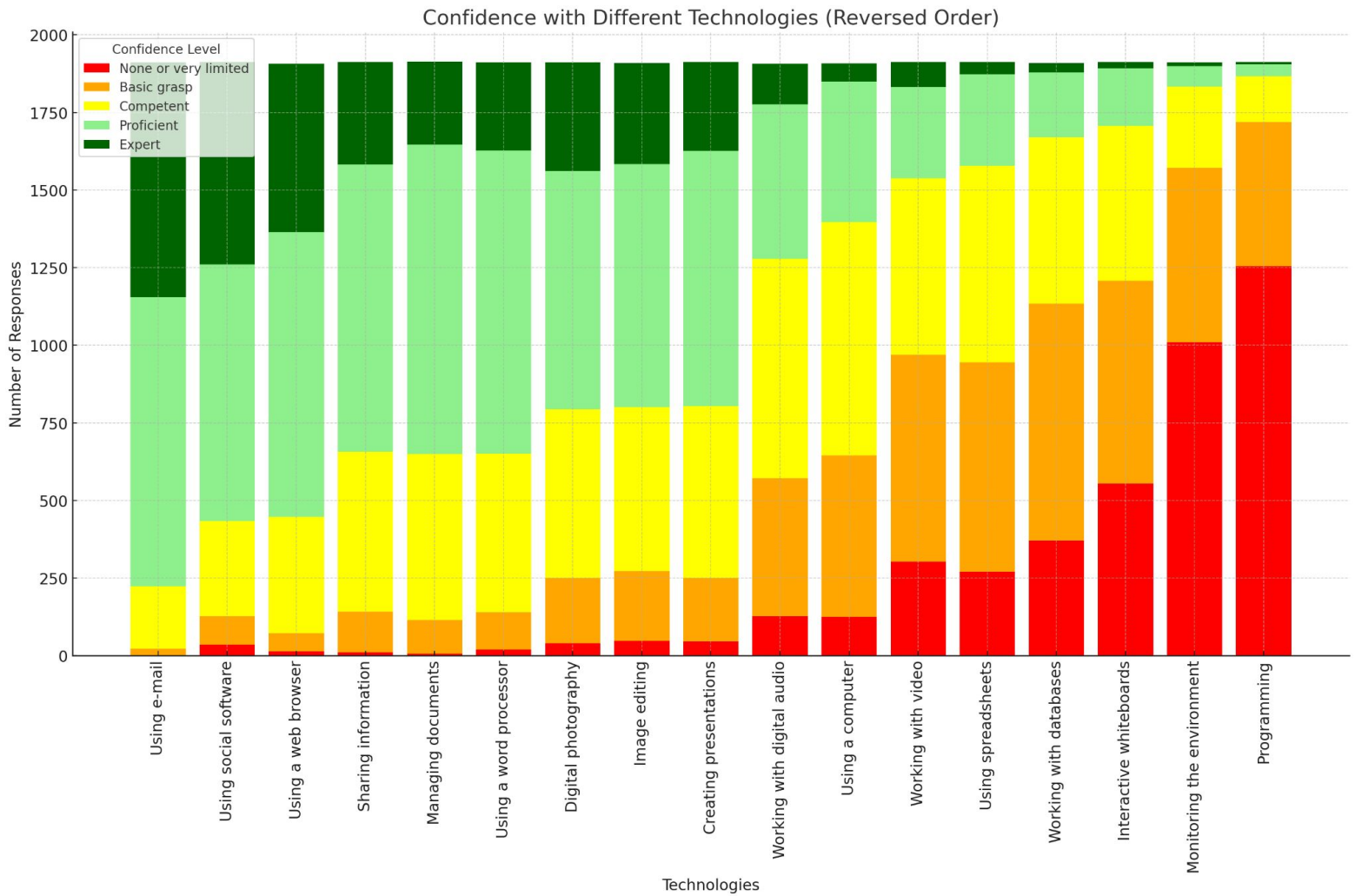
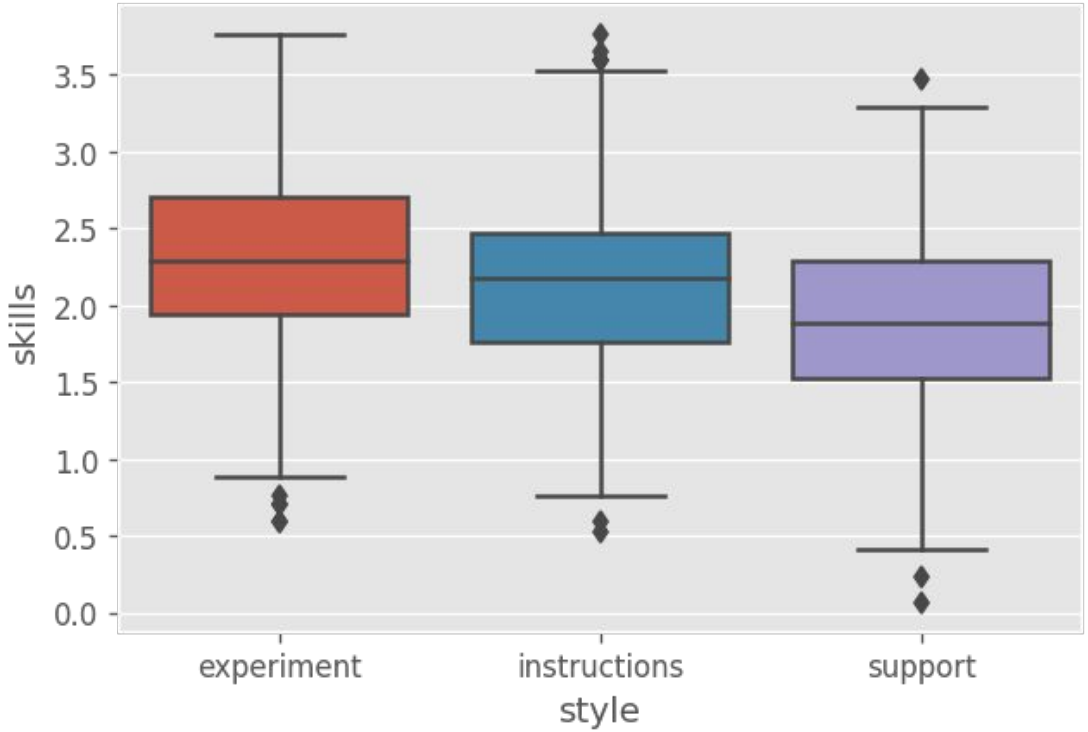
Voting results
Luxton
Burnett
Duval
Alton Towers
10
7
7
London: The Eye
8
6
6
Portsmouth: Victory
5
10
10
Sheet 1
Part: 2 of 4
Back
Forward
Copy
3.2 Insert a column after Column D.
In the new column, in the same row as the teacher names, enter the text 'Total votes'.
Centre all the cells in Columns B to E.
In the three cells beneath the heading *Total votes*, enter three formulas, each one calculating the total votes for a particular destination.

1900+ trainee primary teachers, 2013-19

The attached shows the survey results on 1900 teacher training students. Create a Seaborn plot of stacked bars showing how their confidence with different technologies (columns c to s) varies. Note the scale is ordered none or very limited, basic grasp, competent, proficient, expert. Colour none as red, basic grasp as orange, competent as yellow, proficient as light green and expert as dark green. Order the bars by decreasing confidence.


Confidence with Different Technologies (Reversed Order)
Confidence Level
None or very limited
Basic grasp
Competent
Proficient
Expert
Number of Responses
0
250
500
750
1000
1250
1500
1750
2000
Using e-mail
Using social software
Using a web browser
Sharing information
Managing documents
Using a word processor
Digital photography
Image editing
Creating presentations
Working with digital audio
Using a computer
Working with video
Using spreadsheets
Working with databases
Interactive whiteboards
Monitoring the environment
Programming
Technologies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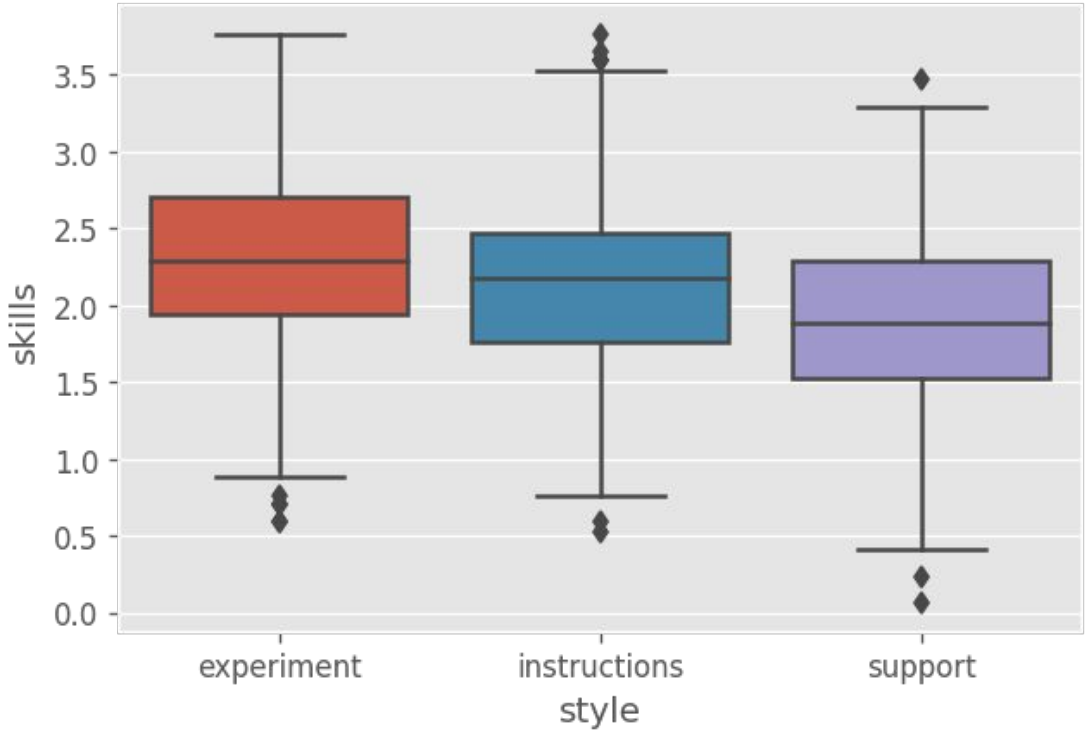
experiment
instructions
support
style




```
[ ]  1  stats.f_oneway(audit[audit['style'] == 'experiment']['skills'].notna(),
     2                 audit[audit['style'] == 'instructions']['skills'].notna(),
     3                 audit[audit['style'] == 'support']['skills'].notna())
     4
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F_onewayResult(statistic=0.7711481065822426, pvalue=0.4626261748378503)
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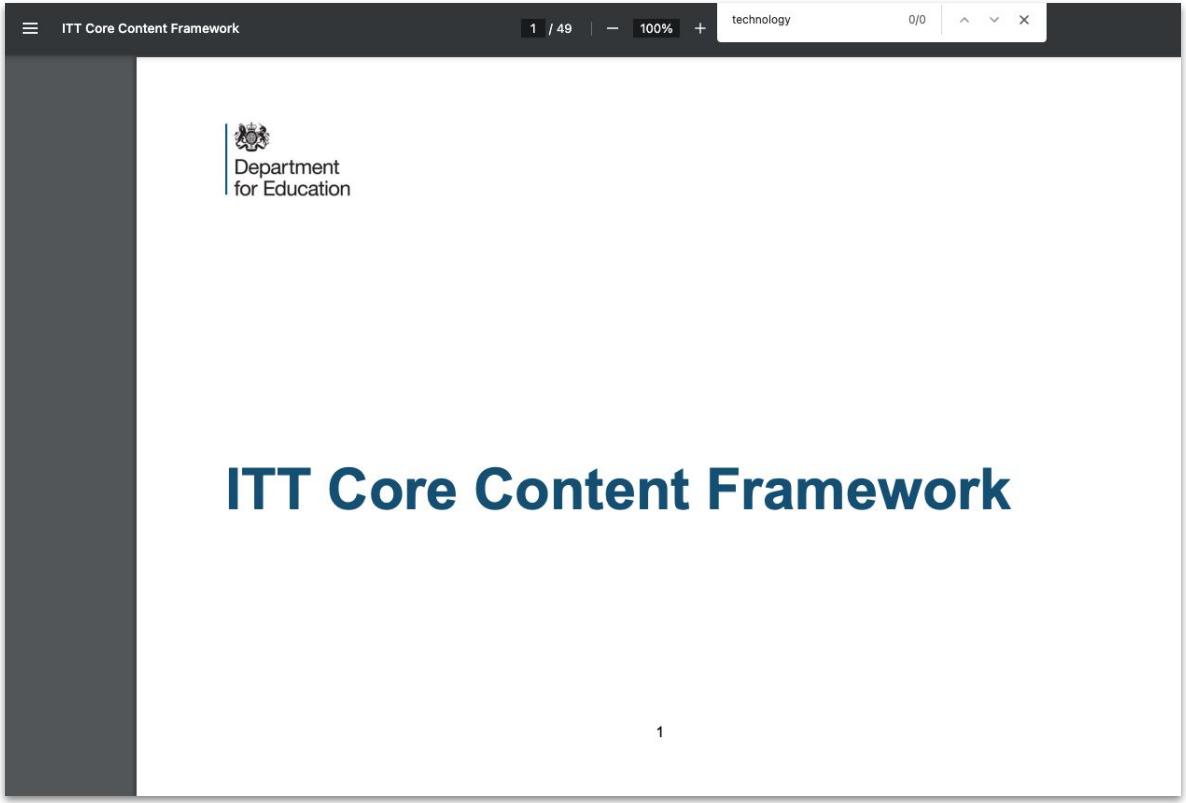
But now…


ITT Core Content Framework
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technology
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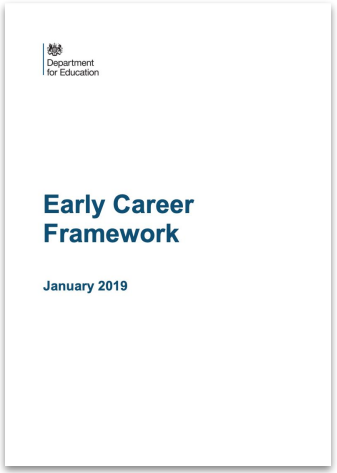
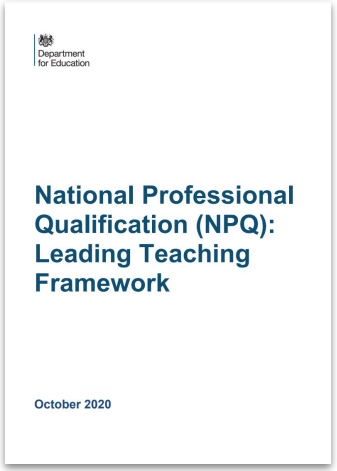
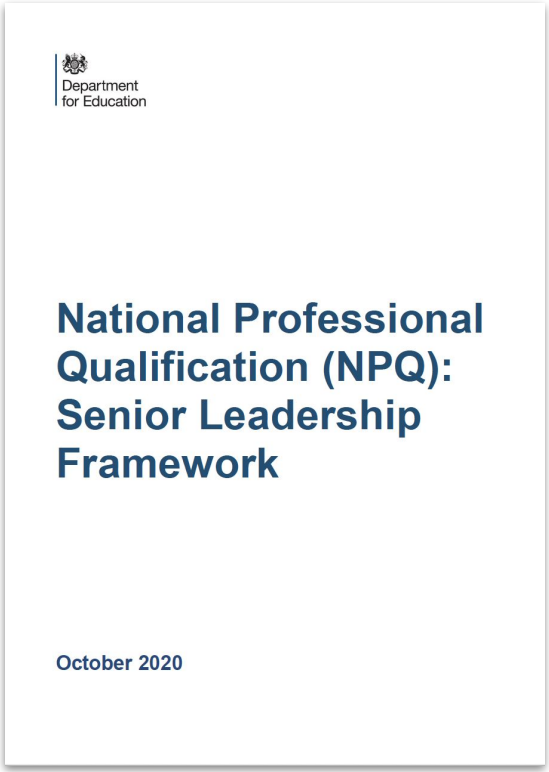
Department for Education
ITT Core Content Framework
1


Department for Education
Early Career Framework
January 2019


Department for Education
National Professional Qualification (NPQ): Leading Teaching Framework
October 2020

Senior leaders:

Learn how to…
Where relevant, contribute to developing a technology infrastructure that is good value for money, supports school operations and teaching, and is safe and secure.



Time for change?

Teachers and school support staff should be able to use digital technology in every aspect of their work; but they aren't trained to do that and are being let down.

We are calling for the National Professional Qualifications for heads and leaders to include having a vision for the safe and effective use of technology in their schools, including understanding of the impact of AI.

Teachers' use of technology in learning and assessment should also be a key part of initial teacher training (ITT) and accredited professional development programmes – and, again, AI needs to be included.

Presenting well

3.3 An important factor in learning is memory, which can be thought of as comprising two elements: working memory and long-term memory.

3.4 Working memory is where information that is being actively processed is held, but its capacity is limited and can be overloaded.

3.5 Long-term memory can be considered as a store of knowledge that changes as pupils learn by integrating new ideas with existing knowledge.

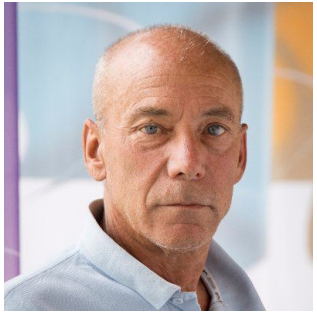
Ditch PowerPoint!

The use of the PowerPoint presentation has been a disaster. It should be ditched.

Sweller in Patty, 2007, qv Sweller 2002

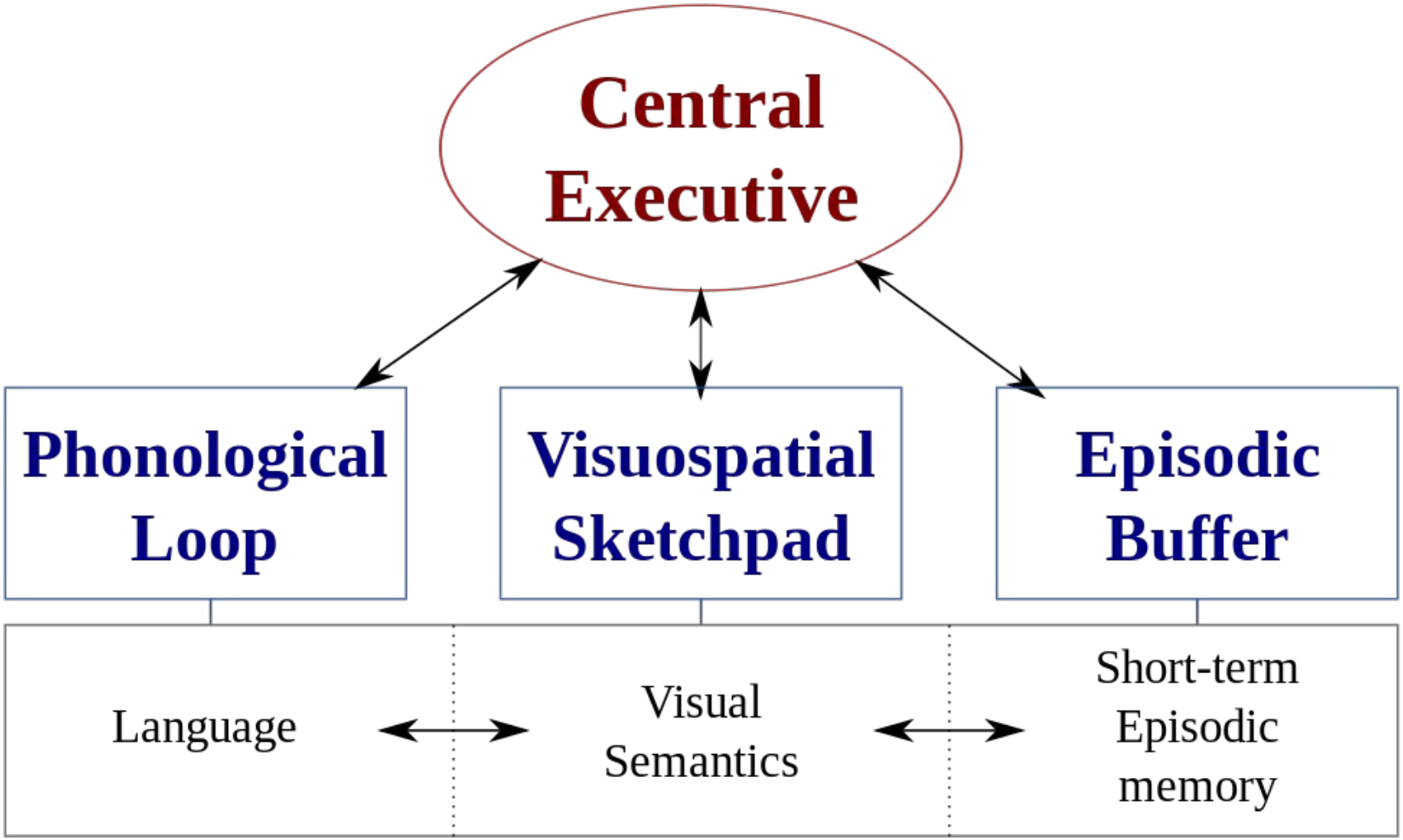
The aim of instruction

The aim of all instruction is to alter long-term memory. **If nothing has changed in long-term memory, nothing has been learned**. Any instructional recommendation that does not or cannot specify what has been changed in long-term memory, or that does not increase the efficiency with which relevant information is stored in or retrieved from long-term memory, is likely to be ineffective.



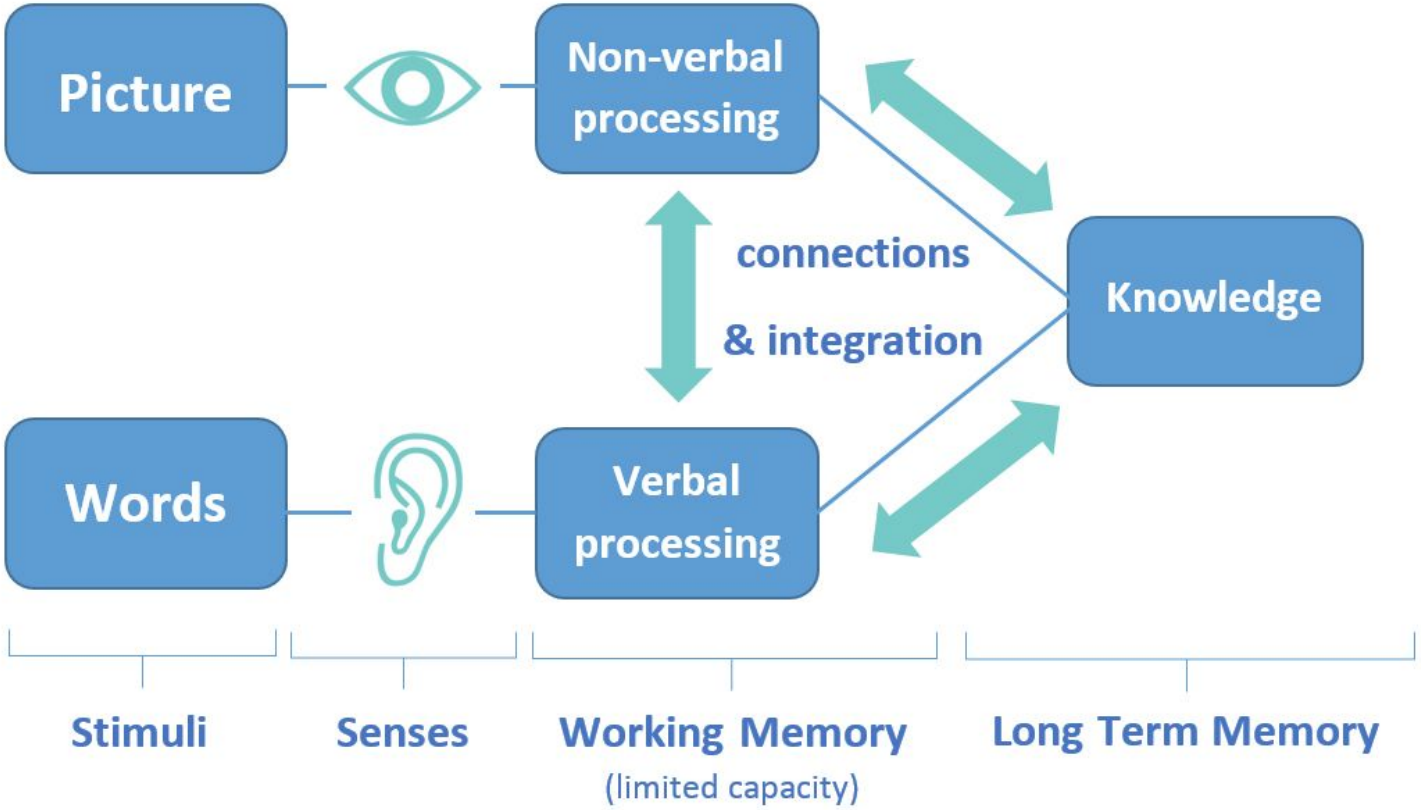
Kirschner, Sweller and Clark, 2006


SCIENCE PHOTO LIBRARY

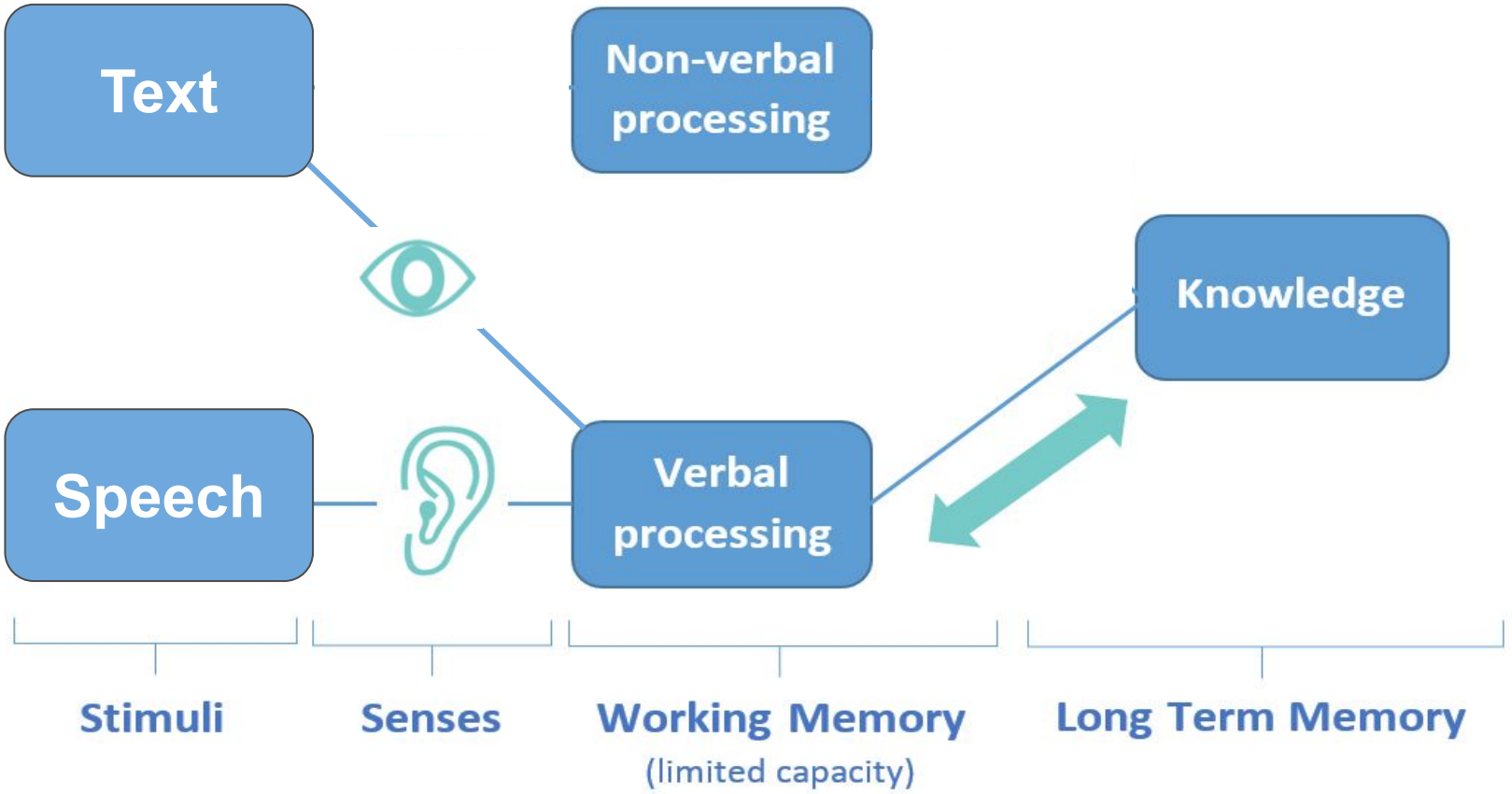


Baddeley and Della Salla, 1996

Allan Paivio's Dual-Coding Theory



qv Paivio, 1971



qv Paivio, 1971

Multimedia principle – words and pictures are better than words alone.

Contiguity principle – text must be in close proximity to pictures.

Modality principle – with pictures use narration in preference to text.

Redundancy principle – presenting words in both text and audio hurts learning.

Coherence principle – adding interesting but irrelevant material hurts learning.

Personalisation principle – use conversational style & virtual coaches.

Clark and Mayer, 2011

Load-Reduction Methods for Five Overload Scenarios in Multimedia Instruction

Type of Overload Scenario	*Load-Reducing Method*	*Description of Research Effect*	*Effect Size*
Type 1: Essential processing in visual channel > cognitive capacity of visual channel			
Visual channel is overloaded by essential processing demands.	Off-loading: Move some essential processing from visual channel to auditory channel.	Modality effect: Better transfer when words are presented as narration rather than as on-screen text.	1.17 (6)
Type 2: Essential processing (in both channels) > cognitive capacity			
Both channels are overloaded by essential processing demands.	Segmenting: Allow time between successive bite-size segments.	Segmentation effect: Better transfer when lesson is presented in learner-controlled segments rather than as continuous unit.	1.36 (1)
	Pretraining: Provide pretraining in names and characteristics of components.	Pretraining effect: Better transfer when students know names and behaviors of system components.	1.00 (3)
Type 3: Essential processing + incidental processing (caused by extraneous material) > cognitive capacity			
One or both channels overloaded by essential and incidental processing (attributable to extraneous material).	Weeding: Eliminate interesting but extraneous material to reduce processing of extraneous material.	Coherence effect: Better transfer when extraneous material is excluded.	0.90 (5)
	Signaling: Provide cues for how to process the material to reduce processing of extraneous material.	Signaling effect: Better transfer when signals are included.	0.74 (1)
Type 4: Essential processing + incidental processing (caused by confusing presentation) > cognitive capacity			
One or both channels overloaded by essential and incidental processing (attributable to confusing presentation of essential material).	Aligning: Place printed words near corresponding parts of graphics to reduce need for visual scanning.	Spatial contiguity effect: Better transfer when printed words are placed near corresponding parts of graphics.	0.48 (1)
	Eliminating redundancy: Avoid presenting identical streams of printed and spoken words.	Redundancy effect: Better transfer when words are presented as narration rather narration and on-screen text.	0.69 (3)
Type 5: Essential processing + representational holding > cognitive capacity			
One or both channels overloaded by essential processing and representational holding.	Synchronizing: Present narration and corresponding animation simultaneously to minimize need to hold representations in memory.	Temporal contiguity effect: Better transfer when corresponding animation and narration are presented simultaneously rather than successively.	1.30 (8)
	Individualizing: Make sure learners possess skill at holding mental representations.	Spatial ability effect: High spatial learners benefit more from well-designed instruction than do low spatial learners.	1.13 (2)

Mayer and Moreno, 2003

AI, accessibility and inclusion

3.6 To access the curriculum, early literacy provides fundamental knowledge; reading comprises two elements: word reading and language comprehension; systematic synthetic phonics is the most effective approach for teaching pupils to decode.

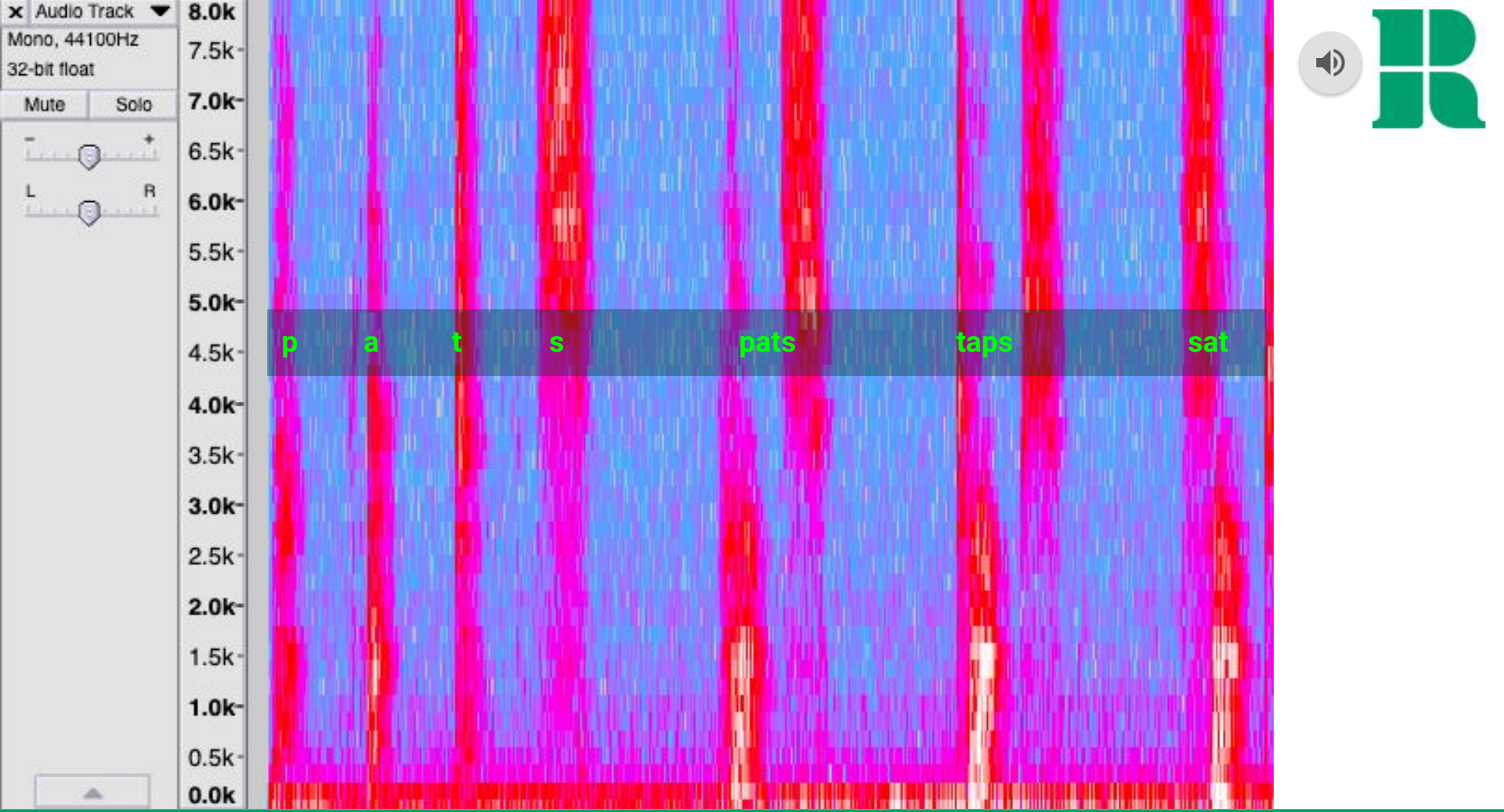
5.7 Pupils with special educational needs or disabilities are likely to require additional or adapted support; working closely with colleagues, families and pupils to understand barriers and identify effective strategies is essential.

ZPD

What the child is able to do in collaboration today he will be able to do independently tomorrow.

Frontispiece of Lev Vygotsky and facing title page from the original Russian edition (1934) of *Thought and Language*

Vygotsky, 1978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Informatique physique / Robotique

Qu'est-ce qu'un ordinateur ?

Le terme «ordinateur» désignait à l'origine les *personnes* dont le travail consistait à effectuer des calculs numériques répétés selon un ensemble d'instructions prédéterminées, c'est-à-dire un algorithme. Au début de l'informatique moderne, Alan Turing a capturé l'essence de ce que faisaient les ordinateurs humains, de la façon dont tout calcul ou calcul était : que tout cela pouvait être compris comme faire ou changer des marques sur du papier selon un ensemble de règles, et que ces règles pourrait être déterminé par les marques sur le papier. Ce modèle est devenu connu sous le nom de machine de Turing et constitue toujours l'un des fondements de l'informatique théorique.

Depuis les années 1940, le terme « ordinateur » a été utilisé à peu près exclusivement pour désigner des machines numériques, qui acceptent une sorte de données d'entrée, les traitent selon un ensemble d'instructions stockées, c'est-à-dire un programme, et produisent une sorte d'informations.

La puissance des ordinateurs numériques vient de leur capacité à exécuter ces instructions stockées à une vitesse incroyable : la puce au cœur d'un smartphone moderne peut exécuter quelques milliards d'instructions par seconde ! Par contre, sans programmation, un ordinateur ne peut rien faire - il faut lui donner des instructions à suivre. Vous pouvez considérer la technologie numérique comme composée de deux systèmes interdépendants, le matériel (les composants physiques, du processeur et de la mémoire à l'alimentation et à l'écran) et le logiciel (le système d'exploitation central, les programmes de contrôle embarqués, les compilateurs ou les interpréteurs pour langages de programmation de haut niveau et tous les nombreux programmes d'application utilisés ou écrits par l'utilisateur de l'ordinateur).

Summarise this as if for an eleven year old: Imagery and Verbal Mental Representations According to DCT, mental representations are associated with theoretically distinct verbal and nonverbal symbolic modes and retain properties of the concrete sensorimotor events on which they are based (see
Fig. 1). The verbal system contains visual, auditory, articulatory, and

Dual Coding Theory is a way of thinking about how we understand and remember things. It says that we have two different ways of understanding things - one is called verbal, which is using words and language, and the other is called nonverbal, which is using images and pictures. Verbal is like using words to describe something, like saying "book" or "teacher." Nonverbal is like using a picture to understand something, like imagining what a book or a teacher looks like. These two ways of understanding things are connected and work together to help us understand and remember things better. Also, nonverbal is more powerful than verbal in terms of the amount of information, the speed of processing, and ability to transform the information.

Opposition Speech: "The Spirit Beyond the Letter"

Ladies, gentlemen, esteemed judges, and my peers,

When I stand before you today, I'm not just speaking as a student opposing a motion. I stand as a young individual, discovering the world, one rule at a time. And, let's be honest, sometimes feeling like I'm wearing a straitjacket made entirely out of those rules!

"Rules exist to help us live our lives," they say. But let's step back for a moment and ask, *whose* life are these rules truly helping us live? Our own unique life or a carbon copy of someone else's ideal?

Picture this: It's a sunny day, and you feel the light breeze gently tousling your hair. You're comfortable, free, and in the moment. And then someone reminds you, "Hey, tuck in your shirt!" Suddenly, that ethereal moment is grounded by the gravity of a seemingly arbitrary directive.

Mind and society

> The child begins to perceive the world not only through his [or her] eyes but also through his [or her] speech

Frontispiece of Lev Vygotsky and facing title page from the original Russian edition (1934) of *Thought and Language*

Vygotsky, 1978

Should learning be hard?

Learning is at its best, human beings are at their best, when they are challenged and overcome those challenges. **AI will make life easy** and strip away learning and teaching — unless we get ahead of it.

Seldon, 2023

The Computational Thinker: Concepts & Approaches

Barefoot Computing

COMPUTING AT SCHOOL

Concepts

- **Logic** predicting & analysing
- **Algorithms** making steps & rules
- **Decomposition** breaking down into parts
- **Patterns** spotting & using similarities
- **Abstraction** removing unnecessary detail
- **Evaluation** making judgement

Approaches

- **Tinkering** experimenting & playing
- **Creating** designing & making
- **Debugging** finding & fixing errors
- **Persevering** keeping going
- **Collaborating** working together

www.barefootcas.org.uk

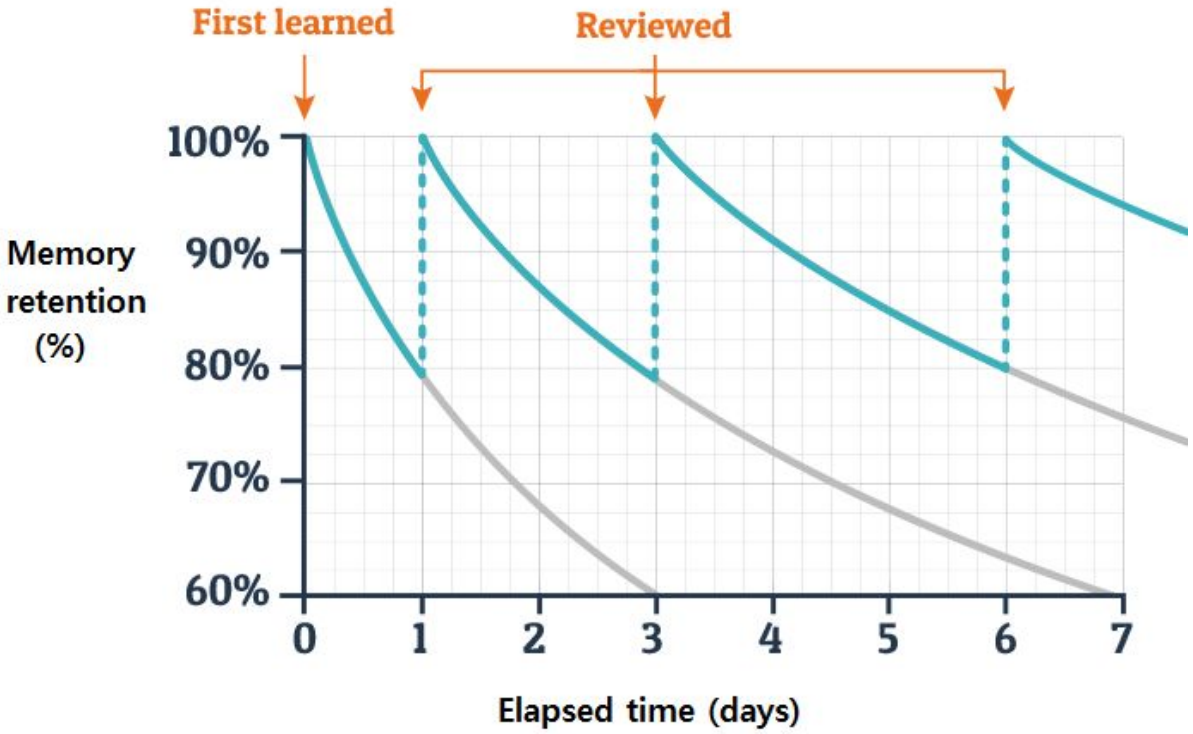
Barefoot would like to acknowledge the work of Julia Briggs and the eLIM team at Somerset County Council for their contribution to this poster.

Multiple choice questions

6.3 Before using any assessment, teachers should be clear about the decision it will be used to support and be able to justify its use.

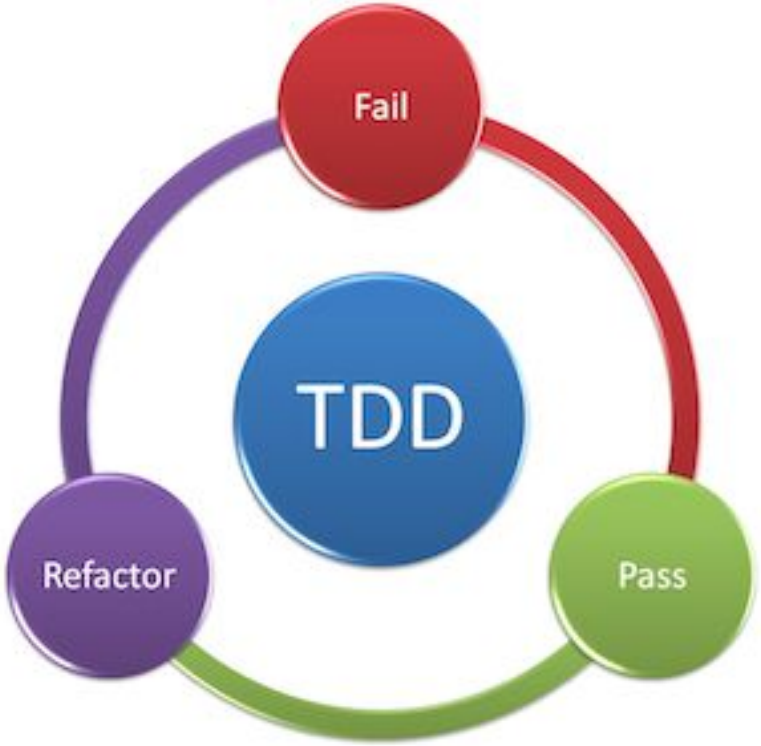
6.7 Working with colleagues to identify efficient approaches to assessment is important; assessment can become onerous and have a disproportionate impact on workload.

Retrieval Practice



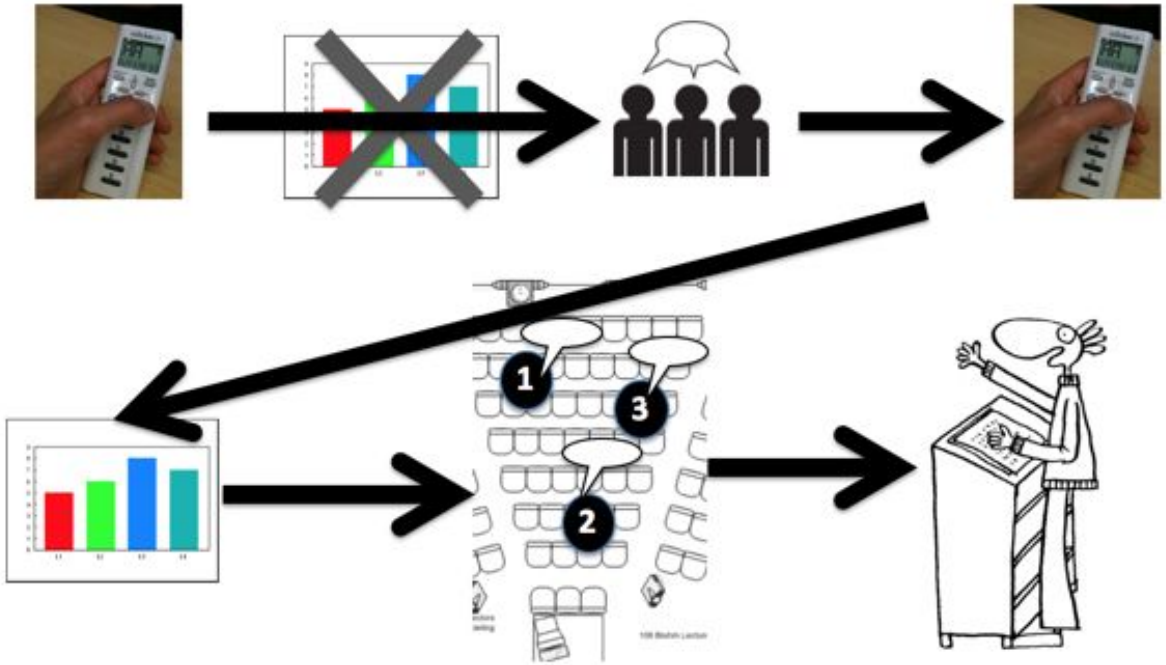
After Ebbinghaus, 1913

Test driven development



Hinge questions

Peer Instruction Flow Chart



* A visual companion to the PI Instructor Cheat Sheet http://peerinstruction4cs.org

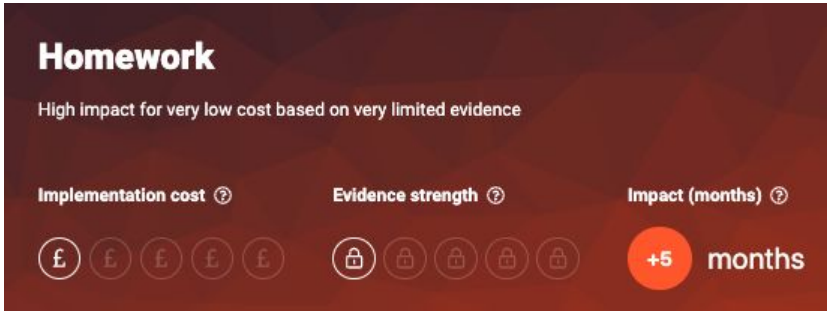
Homework

1. Homework has a positive impact on average (+ 5 months), particularly with pupils in secondary schools.

2. Some pupils may not have a quiet space for home learning – it is important for schools to consider how home learning can be supported (e.g. through providing homework clubs for pupils).

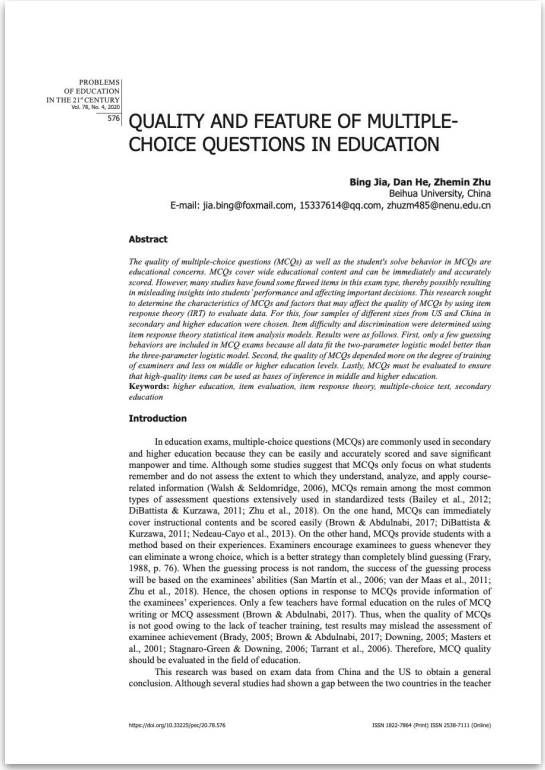
3. Homework that is linked to classroom work tends to be more effective. In particular, studies that included feedback on homework had higher impacts on learning.

4. It is important to make the purpose of homework clear to pupils (e.g. to increase a specific area of knowledge, or to develop fluency in a particular area).



MCQs are OK

- Learners rarely just guess
- Trained examiners ask good questions
- You do need to evaluate the questions



PROBLEMS OF EDUCATION IN THE 21st CENTURY
Vol. 78, No. 4, 2020
576

QUALITY AND FEATURE OF MULTIPLE-CHOICE QUESTIONS IN EDUCATION

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Abstract

The quality of multiple-choice questions (MCQs) as well as the student's solve behavior in MCQs are educational concerns. MCQs cover wide educational content and can be immediately and accurately scored. However, many studies have found some flawed items in this exam type, thereby possibly resulting in misleading insights into students' performance and affecting important decisions. This research sought to determine the characteristics of MCQs and factors that may affect the quality of MCQs by using item response theory (IRT) to evaluate data. For this, four samples of different sizes from US and China in secondary and higher education were chosen. Item difficulty and discrimination were determined using item response theory statistical item analysis models. Results were as follows. First, only a few guessing behaviors are included in MCQ exams because all data fit the two-parameter logistic model better than the three-parameter logistic model. Second, the quality of MCQs depended more on the degree of training of examiners and less on middle or higher education levels. Lastly, MCQs must be evaluated to ensure that high-quality items can be used as bases of inference in middle and higher education.
Keywords: *higher education, item evaluation, item response theory, multiple-choice test, secondary education*

Introduction

In education exams, multiple-choice questions (MCQs) are commonly used in secondary and higher education because they can be easily and accurately scored and save significant manpower and time. Although some studies suggest that MCQs only focus on what students remember and do not assess the extent to which they understand, analyze, and apply course-related information (Walsh & Seldomridge, 2006), MCQs remain among the most common types of assessment questions extensively used in standardized tests (Bailey et al., 2012; DiBattista & Kurzawa, 2011; Zhu et al., 2018). On the one hand, MCQs can immediately cover instructional contents and be scored easily (Brown & Abdulnabi, 2017; DiBattista & Kurzawa, 2011; Nedeau-Cayo et al., 2013). On the other hand, MCQs provide students with a method based on their experiences. Examiners encourage examinees to guess whenever they can eliminate a wrong choice, which is a better strategy than completely blind guessing (Frary, 1988, p. 76). When the guessing process is not random, the success of the guessing process will be based on the examinees' abilities (San Martín et al., 2006; van der Maas et al., 2011; Zhu et al., 2018). Hence, the chosen options in response to MCQs provide information of the examinees' experiences. Only a few teachers have formal education on the rules of MCQ writing or MCQ assessment (Brown & Abdulnabi, 2017). Thus, when the quality of MCQs is not good owing to the lack of teacher training, test results may mislead the assessment of examinee achievement (Brady, 2005; Brown & Abdulnabi, 2017; Downing, 2005; Masters et al., 2001; Stagnaro-Green & Downing, 2006; Tarrant et al., 2006). Therefore, MCQ quality should be evaluated in the field of education.

This research was based on exam data from China and the US to obtain a general conclusion. Although several studies had shown a gap between the two countries in the teacher

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Jia, He and Zhu, 2020

Even the *wrong* answers help

"Answering multiple-choice questions with competitive alternatives can enhance performance on a later test, not only on questions about the information previously tested, but also on questions about related information not previously tested—in particular, on questions about information pertaining to the previously incorrect alternatives."

Mem Cogn
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Optimizing multiple-choice tests as tools for learning

Jeri L. Little · Elizabeth Ligon Bjork

Abstract Answering multiple-choice questions with competitive alternatives can enhance performance on a later test, not only on questions about the information previously tested, but also on questions about related information not previously tested—in particular, on questions about information pertaining to the previously incorrect alternatives. In the present research, we assessed a possible explanation for this pattern: When multiple-choice questions contain competitive incorrect alternatives, test-takers are led to retrieve previously studied information pertaining to all of the alternatives in order to discriminate among them and select an answer, with such processing strengthening later access to information associated with both the correct and incorrect alternatives. Supporting this hypothesis, we found enhanced performance on a later cued-recall test for previously nontested questions when their answers had previously appeared as competitive incorrect alternatives in the initial multiple-choice test, but not when they had previously appeared as noncompetitive alternatives. Importantly, however, competitive alternatives were not more likely than noncompetitive alternatives to be intruded as incorrect responses, indicating that a general increased accessibility for previously presented incorrect alternatives could not be the explanation for these results. The present findings, replicated across two experiments (one in which corrective feedback was provided during the initial multiple-choice testing, and one in which it was not), thus strongly suggest that competitive multiple-choice questions can trigger beneficial retrieval processes for both tested and related information, and the results have implications for the effective use of multiple-choice tests as tools for learning.

Keywords Memory · Educational psychology · Retrieval processes · Learning · Multiple-choice tests · Testing effects

In addition to assessing one's knowledge, taking a test involving recall can also improve one's retention of the tested information. Such improvement occurs, it is argued, because retrieval modifies the memorial representation of the retrieved information in such a way as to make it more recallable in the future than it would have been otherwise (see, e.g., R. A. Bjork, 1975; Carrier & Pashler, 1992). Consequently, cued-recall, short-answer, and free-recall tests that require retrieval are highly regarded as retention-promoting test formats, whereas multiple-choice testing—presumed to require relatively little explicit retrieval—is not.

Indeed, cued-recall testing has been shown to improve the retention of tested—and sometimes even of nontested related—information (e.g., R. C. Anderson & Biddle, 1975; Boker, 1974; Chan, McDermott, & Roediger, 2006; Duchastel, 1981; Frase, 1967, 1968, 1971; McGaw & Grotelueschen, 1972; Rickards, 1976; Rothkopf, 1966; Rothkopf & Bisbicos, 1967; Rothkopf & Bloom, 1970; see Roediger & Karpicke, 2006, for an excellent review of testing effects), whereas the demonstrated benefits of multiple-choice testing have often been smaller (see, e.g., the meta-analyses by R. C. Anderson & Biddle, 1975, and Hamaker, 1986). Furthermore, in studies directly comparing the effectiveness of cued-recall versus multiple-choice testing, cued-recall questions have usually led to better retention of the tested information than have multiple-choice questions, with this result being largely attributed to differences in the types of

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Little and Bjork, 2014

Project Quantum

- formative
- online
- automatically marked
- high quality*
- to support teaching
  - guiding content
  - measuring progress
  - identifying misconceptions.

qv Oates et al 2015

SWITCHED ON Computing

Given the following program, what would be displayed if the user typed in 1?

```
choice = input ("Choose 1 or 2: ")
if choice == 1 :
    print("You chose 1.")
else:
    print("You chose 2.")
```

A. You chose 2.

B. Invalid input

C. (Nothing at all)

D. You chose 1.

A | B | C | D ✓

	GROUP	A	B	C	D	TOTAL
◉	All Users	29 %	17 %	10 %	44 %	807
○	All Users (F)	24 %	20 %	10 %	45 %	267
○	All Users (M)	28 %	15 %	7 %	51 %	338
○	All Users (0~13)	24 %	17 %	7 %	52 %	275
○	All Users (14~100)	27 %	18 %	10 %	45 %	384

DIFFICULTY & QUALITY

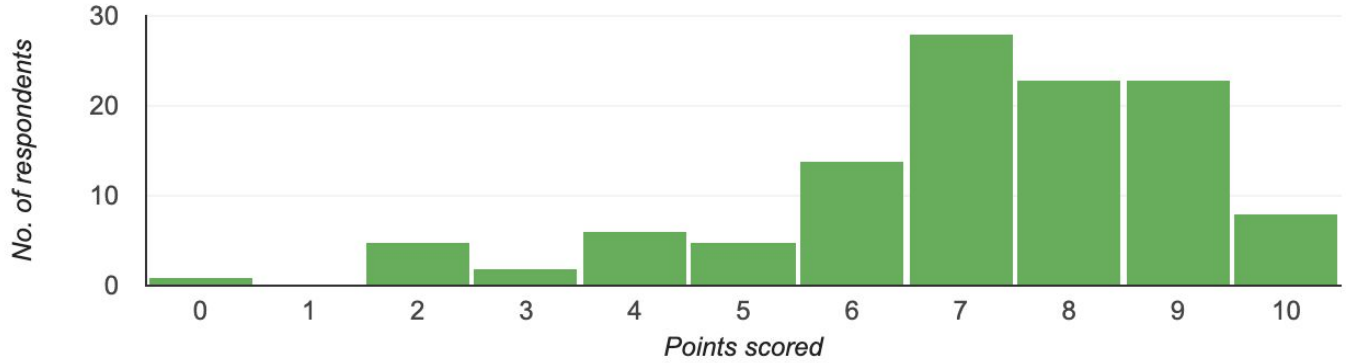
Difficulty 2.01

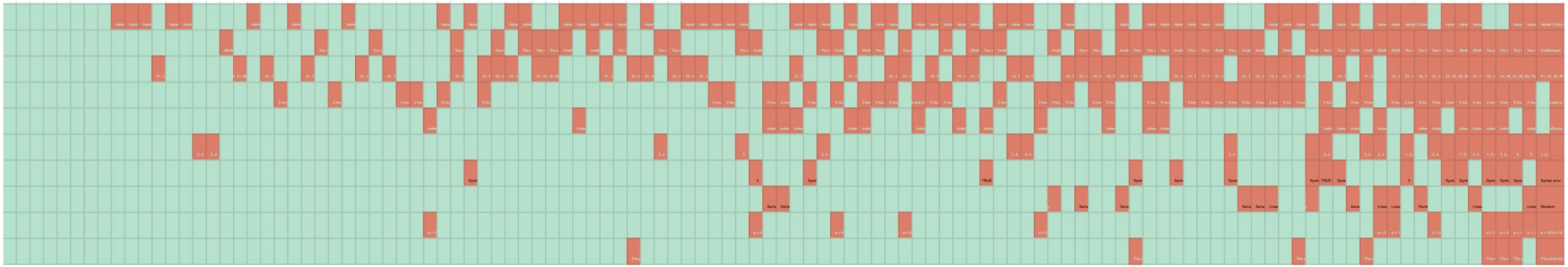
Quality 0.16

Insights

Average	Median	Range
7.1/10 points	7/10 points	0-10 points

Total points distribution





Data

ITT / ECF

Recording data only when it is useful for improving pupil outcomes.

Leading teaching

Adopting new approaches based on both internal and external evidence of what has (and has not) worked before (e.g. pupil outcome data and research-based guidance).

Use multiple methods of data collection in order to make inferences about teacher quality.

Providing credible interpretations of reliable data that focus on pupils' knowledge and understanding.

Senior leadership

The confidence to make good implementation decisions is derived, in part, from confidence in the data on which those decisions are based. Reliable monitoring and evaluation enables schools to make well-informed choices, and to see how their improvement efforts are impacting on teacher knowledge, classroom practices and pupil outcomes.

Implementation should involve repurposing existing processes and resources (e.g. governance, data collection) rather than creating a separate set of procedures.

NFTYPE	(Multiple Items)				
Row Lal	Average of KS2ASS	Average of PTFSM6CLA1A	Average of PTEALGRP2	Average of ATT8SCR	Average of P8MEA
NA	80.83	0.56	0.13	10.77	-1.80
NR	100.43	0.38	0.18	40.10	-0.47
NSE	103.35	0.27	0.17	48.31	-0.03
SEL	112.69	0.07	0.16	74.03	0.57
Grand Tot	**99.64**	**0.32**	**0.16**	**44.88**	**-0.22**

PivotTable Fields

FIELD NAME

Search fields

- RECTYPE
- LEA
- ESTAB
- URN

Filters

NFTYPE

Columns

Values

Rows

ADMPOL

Values

Average of KS2...

Average of PTF...

Average of PTE...

Average of ATT...

Average of P8M...

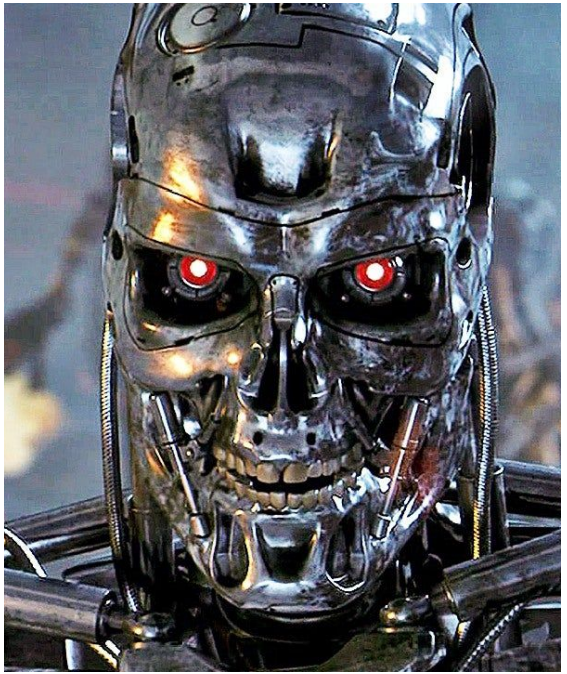

OVERALL
1.0
2.0
3.0
4.0
ATT8SCR
90
80
70
60
50
40
30
20
10
95
100
105
110
115
KS2ASS

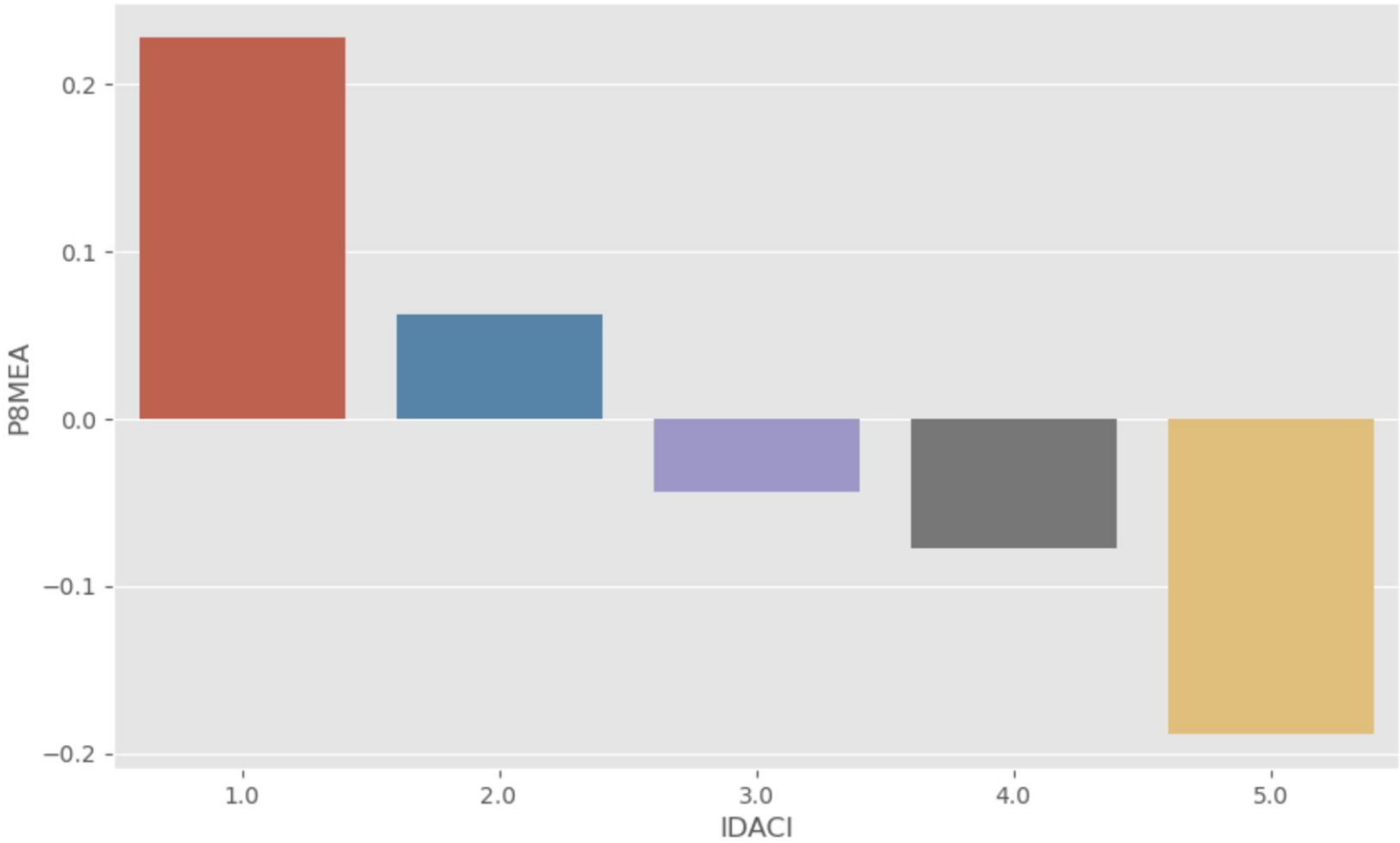
Are Ofsted Inspectors Robots?

Like any modern organisation, we are keen to embrace the benefits of technology. But while it may sound ominous, ‘machine learning’ simply refers to a computer programme that helps us identify potential decline in a school, and that then re-jigs the underlying algorithm when inspection outcomes are known. It doesn’t mean we’re now using computers to make decisions without any human intervention, or indeed to judge schools

The new computer model uses progress and attainment data from the Department for Education, enhanced with school workforce census data and Parent View responses, to produce scores for each school, ranging from the lowest risk up to the highest risk. These scores are on a continuous scale, so there are no thresholds that automatically determine that a school should be inspected.

Harford, 2018

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P8MEA
1.0
2.0
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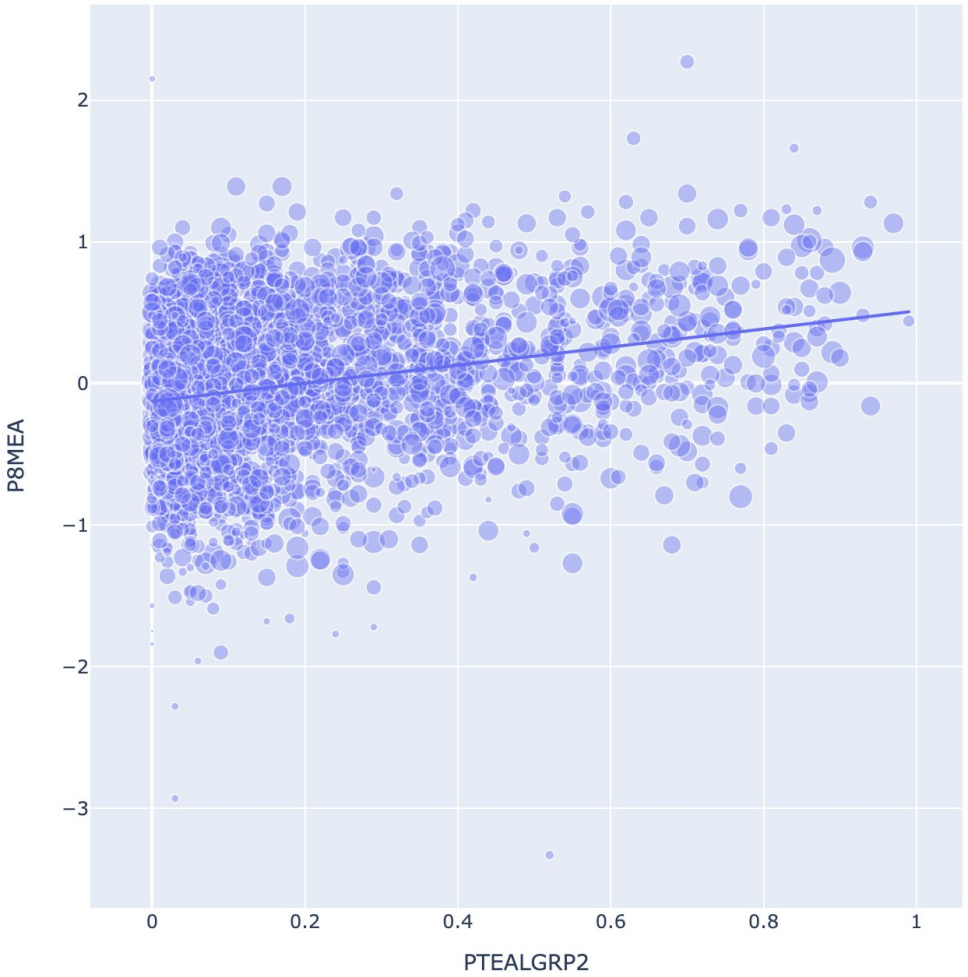
P8MEA
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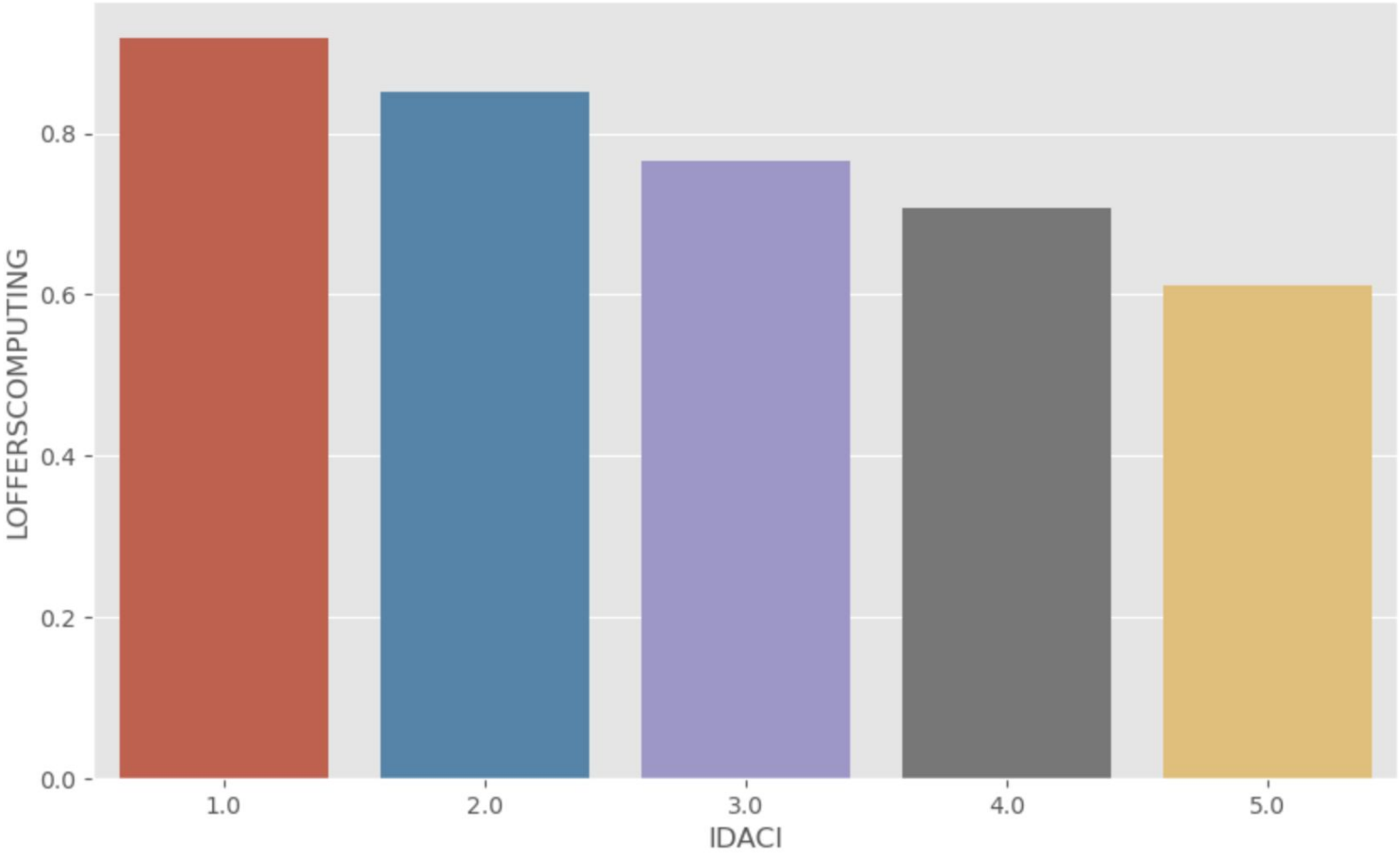
1


LOFFERSCOMPUTING
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0.6
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1.0
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5.0
IDACI

Do we need a content framework for digital competence? If so, what should it include?

Learn that…
Learn how to…

Any questions?

These slides: bit.ly/nen23

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