



Personal Ideas

AWS Advanced Architecting

Francisco Moreno

April/2025

Agenda

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Value of being certified

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AWS Certification & Training
 Tips and resources to fast track your Cloud Career
 📧 Weekly newsletter

Top 10 Benefits of AWS Certification

5 Ways Professional Certifications Add Value
 📅 10/20/2019, 10:41 AM EDT

CERTiPORT
certification

THE VALUE OF CERTIFICATION

SKILLS HAVE BECOME THE GLOBAL CURRENCY OF 21ST CENTURY ECONOMIES!

In a world where competition for jobs, pay increases, and academic success continues to increase, certifications offer huge benefits: they are a credible, third-party assessment of one's skills and knowledge for a given subject.

Paradigms to be on cloud

THE NEW STACK

PRODUCTS SERVICES PARTNERS NEWSLETTER
ARCHITECTURE ENGINEERING OPERATIONS

Introduction to AWS Economics

Reducing Costs and Complexity

Map intro

Merchants of Complexity: Why 37Signals Abandoned the Cloud

Reducing a fleet of servers to 10 instances is easy, but it is not a requirement that comes up that often for most companies. David Heinemeier Hansson argues

Go full AWS. [Read the article](#)

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Cloud Economics Center
Understand and optimize the value of AWS

Leaving the Cloud: Cloud Computing Isn't For Everyone

We've run extensively in both Amazon's cloud and Google's cloud, but the savings never materialized. So we've left.

Paradigms of using in the normal way


Blog > OpenTF joins The Linux Foundation as OpenTofu

OpenTF Joins The Linux Foundation as OpenTofu!

OpenTF is the new name for the Open Source Terraform project. It is now a part of the Linux Foundation and is being developed by the OpenTofu Steering Committee.

lucsf/da-crate

One staging for each engineer: introducing Layerform




Think by yourself

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Don't follow normal structures

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CNBC **make it**

SUCCESS MONEY WORK LIFE VIDEO

CLOSING THE GAP
29-year-old makes \$125K working in tech without a bachelor's degree—here's how

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Oscars 2024: Greta Gerwig was rejected by every grad school she applied to

WORK
Want a job or promotion? Here's how to brag, Wh

WORK

68-year-old has spent 50 years at the same company as an engineer, even without a college degree—this is his one regret

Published Sun, Oct 1 2023 9:30 AM EDT



Jennifer Liu
@IN/JLJENNIFERLIU
@JLJENNIFERLIU

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Estudiar informática ha dejado de ser el camino hacia la tierra prometida del dinero y la seguridad laboral

Kwan Wei Kevin Tan, *Business Insider* 23 nov. 2023 23:30h.



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Experiment: IT companies eager to hire self-taught pros

Updated on: November 15, 2023 12:53 PM 1



Ernestas Naprys, Senior Journalist





Value of being certified

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Top 10 Benefits of aws Certification



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5 Ways Professional Certifications Add Value



By MBO Partners | April 1, 2022

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THE VALUE OF CERTIFICATION

SKILLS HAVE BECOME THE GLOBAL
CURRENCY OF 21ST CENTURY ECONOMIES!

In a world where competition for jobs, pay increases, and academic success continues to increase, certifications offer hope because they are a credible, third-party assessment of one's skill and knowledge for a given subject.





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Paradigms to be on cloud

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'Merchants of Complexity': Why 37Signals Abandoned the Cloud

Provisioning a fleet of servers in 30 minutes is magic, but it is not a requirement that comes up that often for most businesses, David Heinemeier Hansson argues.

Dec 26th, 2023 8:15am by [Joab Jackson](#)



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Leaving the Cloud: Cloud Computing Isn't For Everyone

We've run extensively in both Amazon's cloud and Google's cloud, but the savings never materialized. So we've left.

Introduction to AWS Economics

Reducing Costs and Complexity

May 2015



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Understand and optimize the value of AWS

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Paradigms of using microservices

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prime video | TECH

Homepage

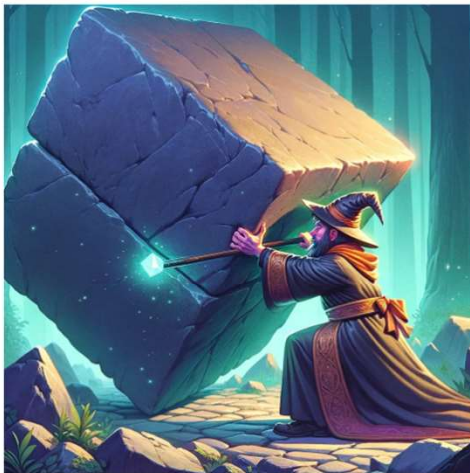
Our Innovation

Our People

Video Streaming

Scaling up the Prime Video audio/video monitoring service and reducing costs by 90%

The move from a distributed microservices architecture to a monolith application helped achieve higher scale, resilience, and reduce costs.



Architecture Style : Modulith (vs Microservices)



Pier-Jean Malandrino · Follow

Published in Level Up Coding · 4 min read · Jan 28, 2024

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Best of 2023: Don't Build Microservices, Pursue Loose Coupling



BY: CHRIS BERTINATO ON DECEMBER 26, 2023

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Rebuilding Netflix Video Processing Pipeline with Microservices

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Published in Netflix TechBlog · 9 min read · Jan 10, 2024



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OpenTF Joins The Linux Foundation as OpenTofu!



Omry Hay

env0 CTO & Co-founder, OpenTofu Steering Committee

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Lucas F. da Costa

Posted on 29 Aug 2023



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One staging for each engineer: introducing Layerform

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READING & LITERACY

'I Literally Cried': Teachers Describe Their Transition to Science-Based Reading Instruction



By [Elizabeth Heubeck](#) — September 15, 2023 ⌚ 6 min read

Cognitive Bias:

Outcome Bias (Historian Error): Once you look back, every decision looks like it makes sense. But when you are in the moment, it is not that clear. The 2008 bank crisis seems very easy to understand, but back in time, even the smartest Wall

#6 Reciprocity

Reciprocity is the central core of cooperation among people that sustains economy growth and social development. The act of reciprocity are employed by Non-Governmental Organizations (NGOs) and philanthropic

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THE ART OF THINKING CLEARLY

The Secrets of Perfect Decision-Making
ROLF DOBELLI



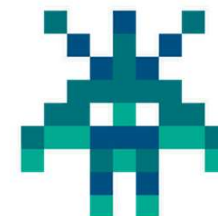
Instructor

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- **Comms Engineer**, M.Sc., University of York, UK. **Electronic Engineer**, U Javeriana.
- {Enterprise, Solutions, Software} **Architect**, **DevOps Engineer**, Low-Level **Developer**.
- 16 years of working experience on massive transport, financial companies (Banks and **Transactional Platforms**) and software companies (Current).
- 20+ Cloud Certifications



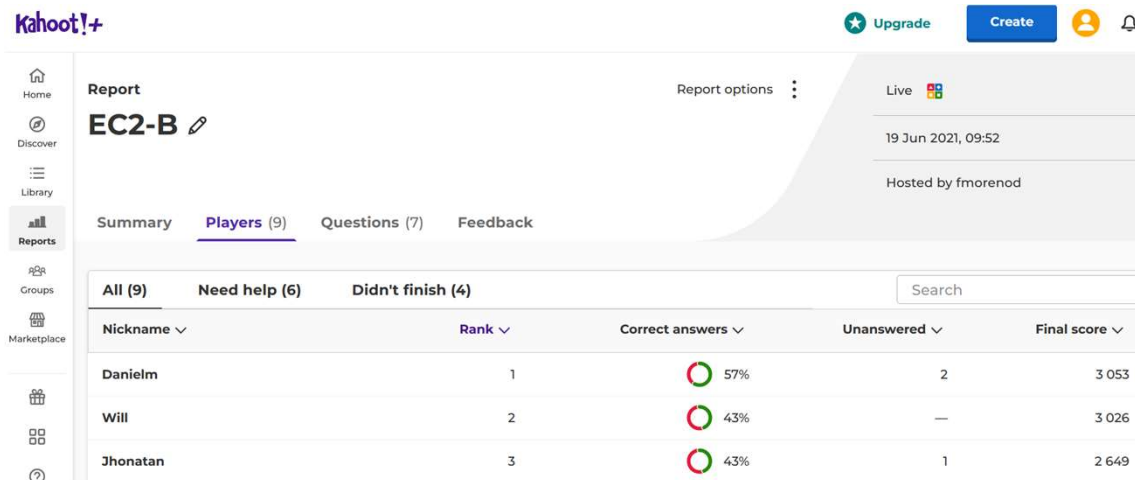
/in/fmorenod - fmorenod@gmail.com





Time Periods

- **Schedule** your appointments: 10 sessions.
- Arrive early to check your connection. Bring your own questions from concepts or from labs.
- **No recording** is allowed, except extraordinary cases.
- **Raise your hand** or interrupt the class **if you have to**: I plan to stop every 2/3 slides.
- **Kahoot** (kahoot.it) to review concepts. Please use it with your real name otherwise, I cannot follow your progress.

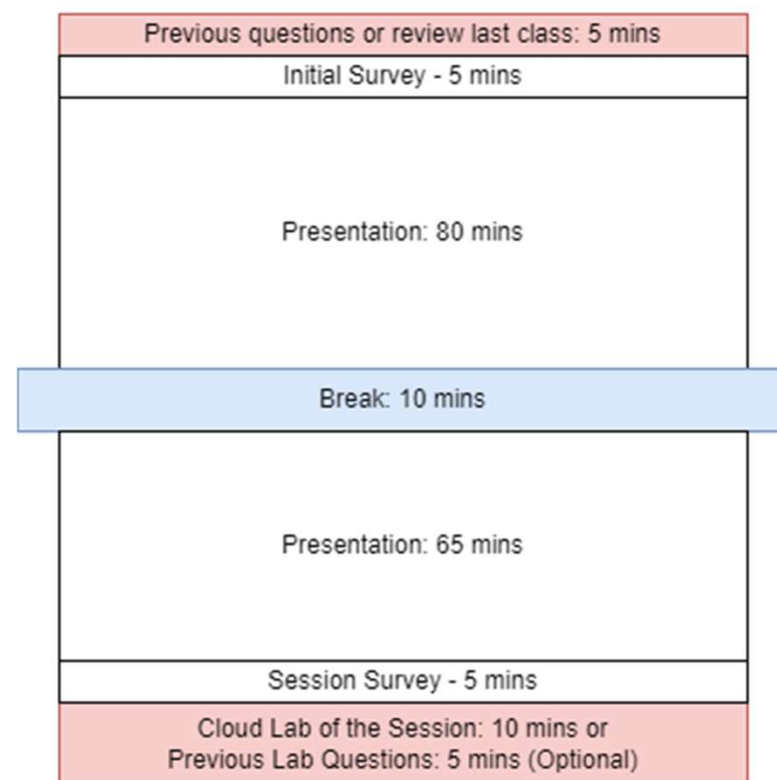


The image shows the Kahoot! 'Report' page for a quiz titled 'EC2-B'. The page is divided into several sections: a top navigation bar with 'Home', 'Discover', 'Library', 'Reports', 'Groups', and 'Marketplace'; a main content area with tabs for 'Summary', 'Players (9)', 'Questions (7)', and 'Feedback'; and a bottom section for 'Report options' including 'Live', '19 Jun 2021, 09:52', and 'Hosted by fmorenod'. The 'Players' tab is active, showing a table of player performance.

Nickname	Rank	Correct answers	Unanswered	Final score
Danielm	1	57%	2	3 053
Will	2	43%	—	3 026
Jhonatan	3	43%	1	2 649

Punctuality

Check connection, audio and questions



Features

A course that "Identify (..) services, compare features, and explore best practices to architect resilient, secure, and highly available IT solutions on AWS."

- It is a course refined by thousands of students and hundreds of instructors over the years, focusing on the most widely used methods and services in the industry.
- A course does not guarantee that all the requested topics will be covered as there are many services for each exam – 6 pages for SAA, 5 for DAV and 7 for SAP.
- It is expected that there will be independent work on the part of the student to read the Whitepapers, documentation and FAQs.
- Labs contains required information to work as independent tasks, are not taught in class, and are handled by the AWS Platform. **HOWEVER**, the student requests to BSG to do it on class (to do at the end of the class)
- AWS recommends course length and cadence.





AWS Platform

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Classes Management: Automatic generated URL

aws training and certification

My account

My Classes > Architecting on AWS

Architecting on AWS

Location: [Virtual Class Link](#)

Start Date: August 23, 2023 @ 11:00 AM America / Bogota (UTC-05:00)

End Date: October 30, 2023 @ 11:59 PM America / Bogota (UTC-05:00)

Labs

Labs will be made available by instructors

Lab Guide [Student Guide](#)

Lab 1 - Explore and interact with the AWS Management Console and AWS Command Line Interface

2 HOURS

This lab provides you with a basic overview of the AWS Management console and API

[Launch](#)

online.vitalsource.com/reader/books/200-ARCHIT-75-EN-LG-E/pageid/98

Architecting on AWS 7.5.5 (EN): Lab Guide

AWS Training and Certification

Contents

Lab 1: Exploring and Interacting with the AWS Management Console and AWS CLI	4
Lab 2: Building your Amazon VPC Infrastructure	19
Lab 3: Creating a Database Layer in Your Amazon VPC Infrastructure	32
Lab 4: Configuring High Availability in Your Amazon VPC	69
Lab 5: Building a Serverless Architecture	94

Task 2: Creating three

In this task, you create three Amazon SNS topics to subscribe the queues to the previous

Task 2.1: Creating an Ar

10. At the top of the AWS Management console, choose **Simple Queue Service**.

11. On the SQS home page, choose **Create queue**.

12. On the **Create queue** page, in the **Type** dropdown menu, choose **Standard** (the default).

13. The console sets default values for the **Name** field. Enter **thumbnail-queue**.

14. Choose **Create queue**.

Amazon SQS creates the queue and

Lab Support

Almost all AWS courses have self-directed labs for the students.

online.vitalsource.com/reader/books/200-ARCHIT-75-EN-SG-E/pageid/555

Architecting on AWS 7.5.5 (EN): Student Guide

AWS Training and Certification

Module 8: Automation

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Module 9: Containers

428

Module 10: Networking 2

464

Module 11: Serverless

503

Module 12: Edge Services

550

Module 13: Backup and Recovery

607

Course Summary

654

Edge services architecture

In this module, you learn about each AWS service involved in this example:

Review the edge services architecture. A user sends a request to an application partly hosted on premises. The user's request interacts with Amazon Route 53, AWS WAF, Amazon CloudFront, and AWS Outposts. The AWS services hosted in the cloud are protected with AWS Shield.

In this module, you learn about each of the services labeled in the example.

1. First, you learn about Amazon Route 53 and how you can use it to direct traffic to your resources. Route 53 operates at edge locations around the world.
2. Next, you learn about the AWS content delivery network known as Amazon CloudFront.

Lab environment

You are tasked with evaluating and improving an event-driven architecture. Currently, Customer Care professionals take snapshots of products a store the images. The development team runs P uploaded to the ingest S3 bucket. Uploading a file notification to an Amazon SNS topic. Amazon S separate SQS queues. The initial design was to each resizing operation. After reviewing the initial instances with Lambda functions. The Lambda fu formats and store the output in a separate S3 b effective.

The following diagram shows the workflow:



Start lab

1. To launch the lab, at the top of the page, choose **Start lab**.
2. To open the lab, choose **Open Console**.

You are automatically signed in to the AWS Management Console in a new web browser tab.

Do not change the Region unless instructed.

Common sign-in errors

Error: You must first sign out

Amazon Web Services Sign In

You must first log out before logging into a different AWS account.

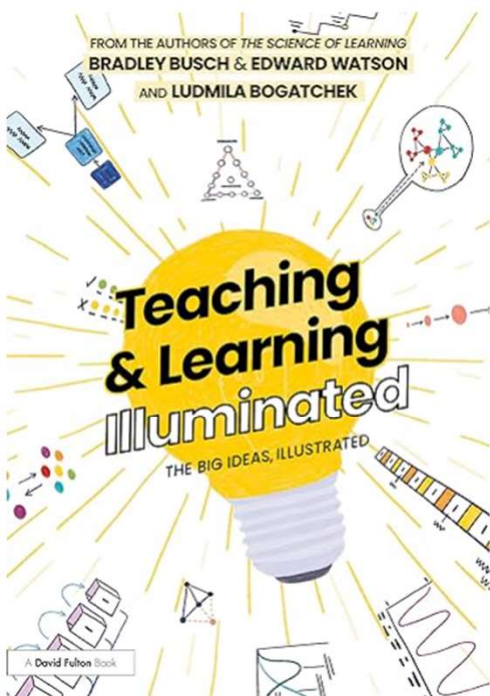
To logout, [click here](#)

If you see the message, **You must first log out before logging into a different AWS account:**

- Choose the [click here](#) link.

T&L Illuminated I

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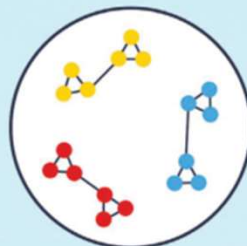
Working memory is very small

This means that we forget new information quickly.



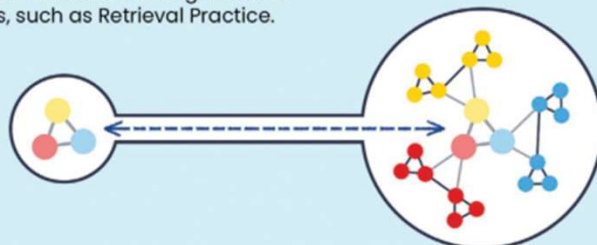
Long-term memory is very large

This means that we can remember things from years and years ago.



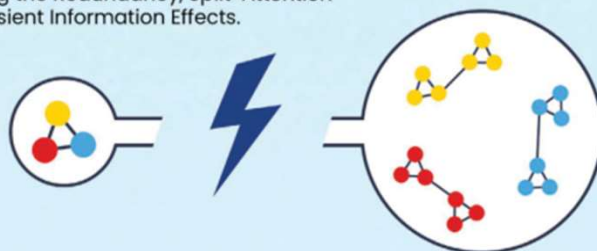
Transfer between working memory & long-term memory is key for learning

This can be facilitated through several strategies, such as Retrieval Practice.



Unfortunately, cognitive overload hinders this transfer

This overload can be reduced through mitigating the Redundancy, Split-Attention and Transient Information Effects.



ARE YOU AWARE OF IT?

YES

NO

~~FAMILIAR~~

DEEP
KNOWLEDGE

CLUELESS

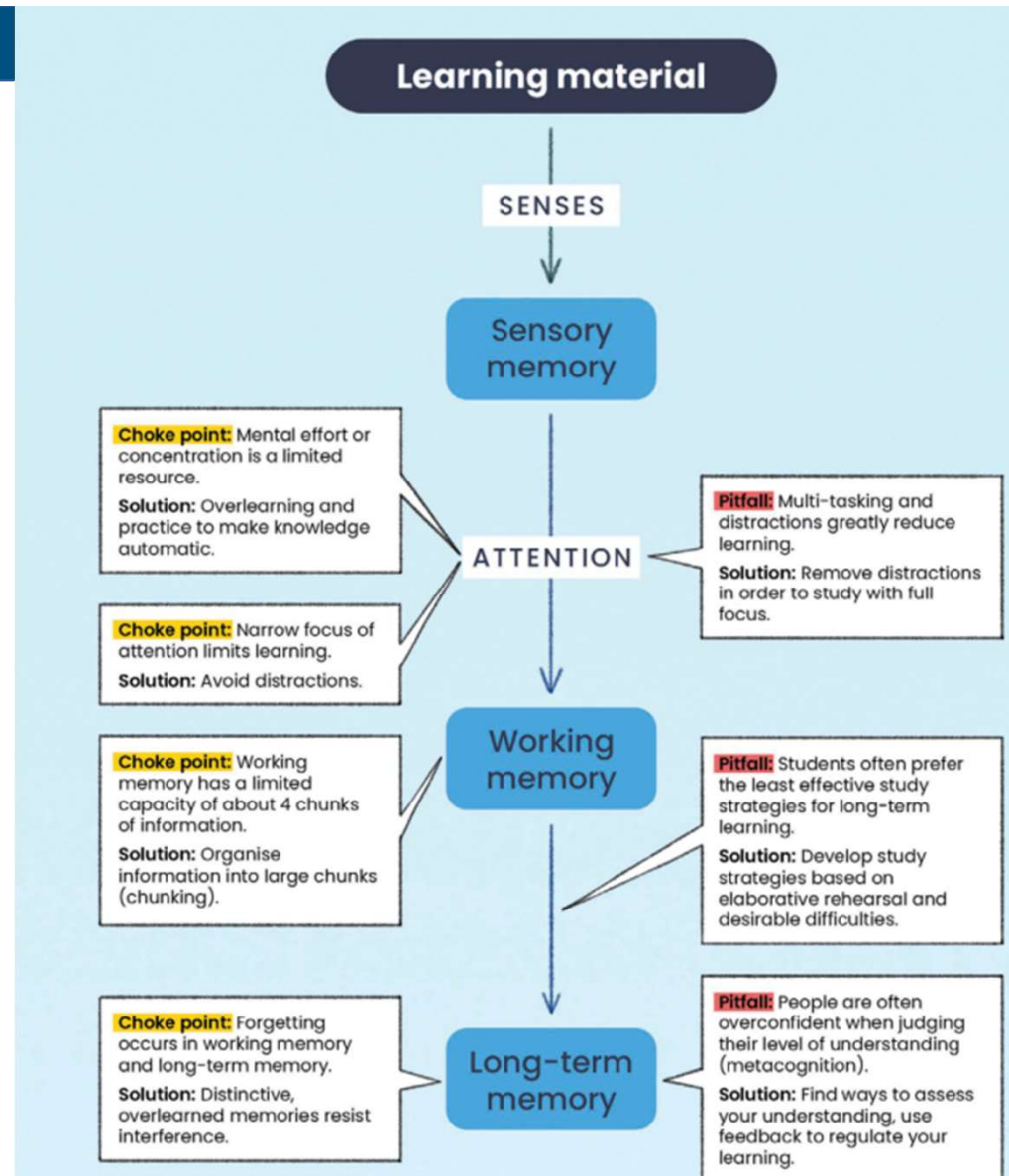
GUT FEEL

NO

YES

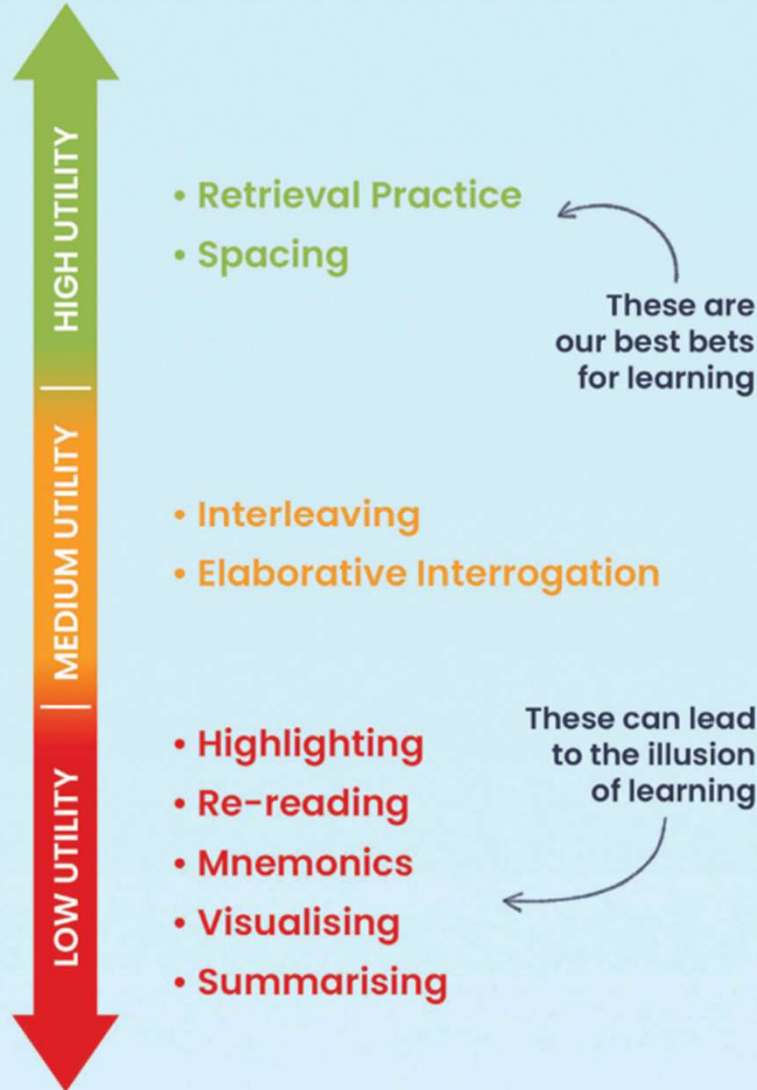
DO YOU REALLY KNOW IT?

T&L Illuminated II



T&L Illuminated III

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Blocking



Blocking involves doing concept 1, then concept 2, then concept 3.

Interleaving



Interleaving involves mixing up concepts within a topic.

Why it works:

1. Discrimination learning: Spotting **differences** between similar things



When students think about differences, we prompt them to think harder. Contrasting information is more likely to stick in our mind.

2. Involves remembering **similarities** between different things



By highlighting similarities between different things, we provide more "anchor points" for students to hook new information onto.

3. Involves the **benefits of Spacing**



Each time the information is revisited, it helps ingrain and cement it into our long-term memory.

T&L Illuminated IV

Cramming



Spacing



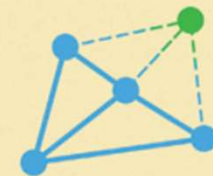
The benefits of Retrieval Practice

Illuminated by @Inner_Drive | innerdrive.co.uk

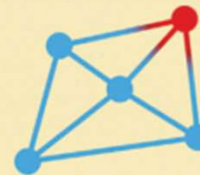
1. Identifies gaps in knowledge



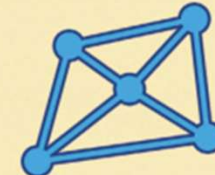
2. Makes connections



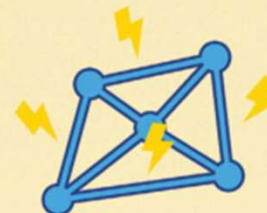
3. Checks for misunderstandings



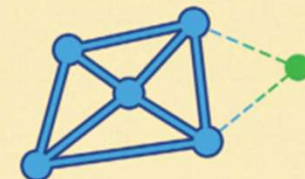
4. Strengthens connections



5. Makes connections robust under pressure and stress



6. Makes it easier to learn new things

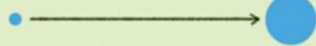


Why cognitive overload happens

Illuminated by @Inner_Drive
innerdrive.co.uk

and how to overcome it

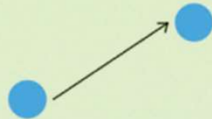
1. The task will take too long



Break it down with shorter deadlines



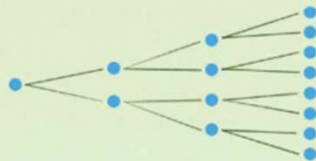
2. The task is too complex



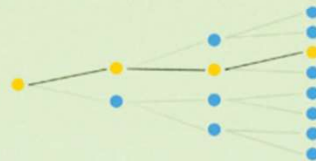
Break it down into small chunks



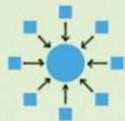
3. There are too many choices



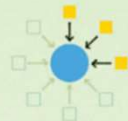
Highlight a clear path



4. Too much information is presented at once



Prioritise important information



	Split-Attention Effect	Redundancy Effect	Coherence Effect
Burdens working memory			
Information is irrelevant to the learning			
The same information is repeated in different formats			
Information is split over different locations and/or timings			