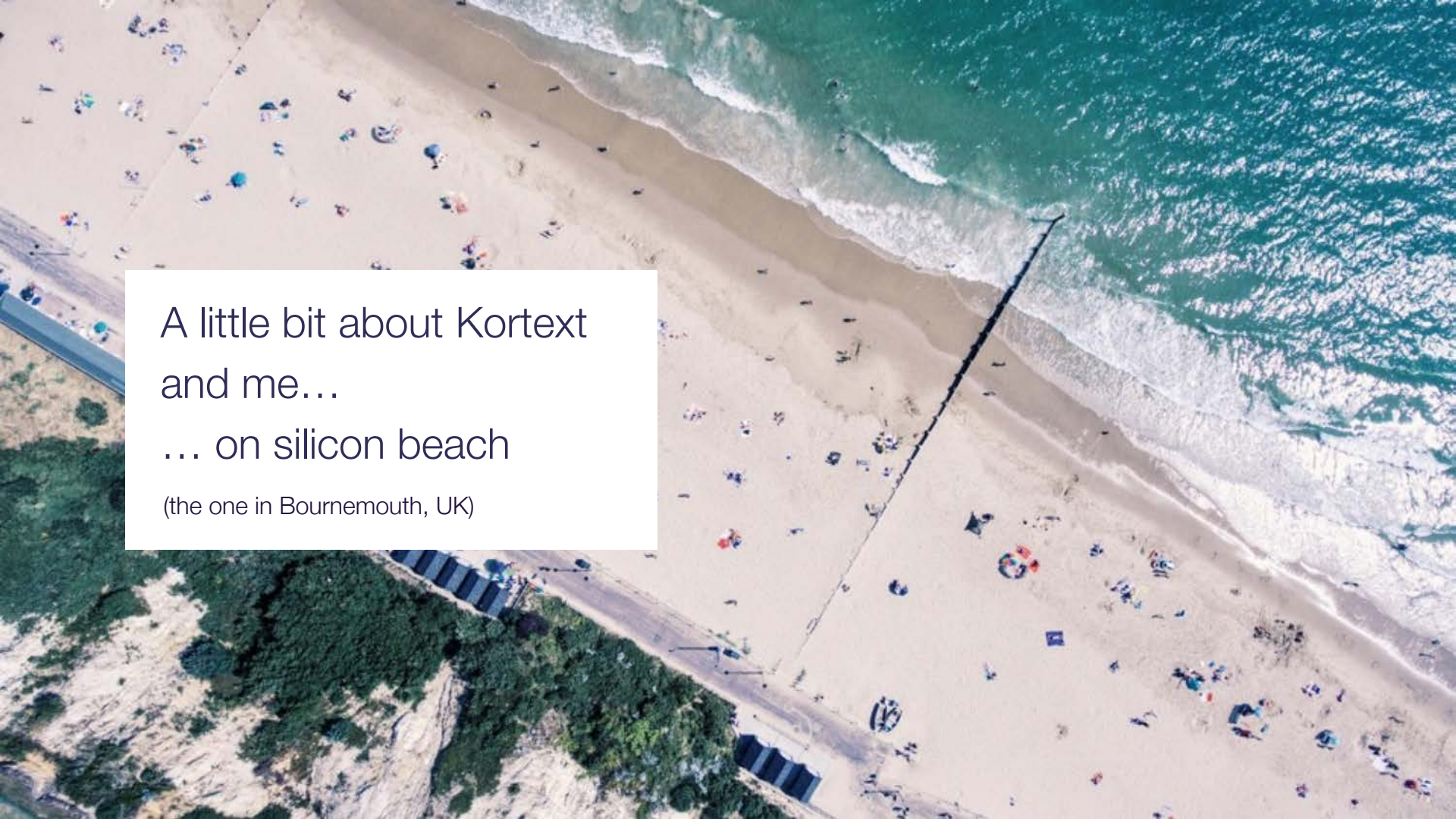
Kortext

EdTech: The Evolution of Education and Technology

James Gray
CEO

IFRRO 2018



A little bit about Kortext and me…

… on silicon beach

(the one in Bournemouth, UK)

Copyright Licensing Agency

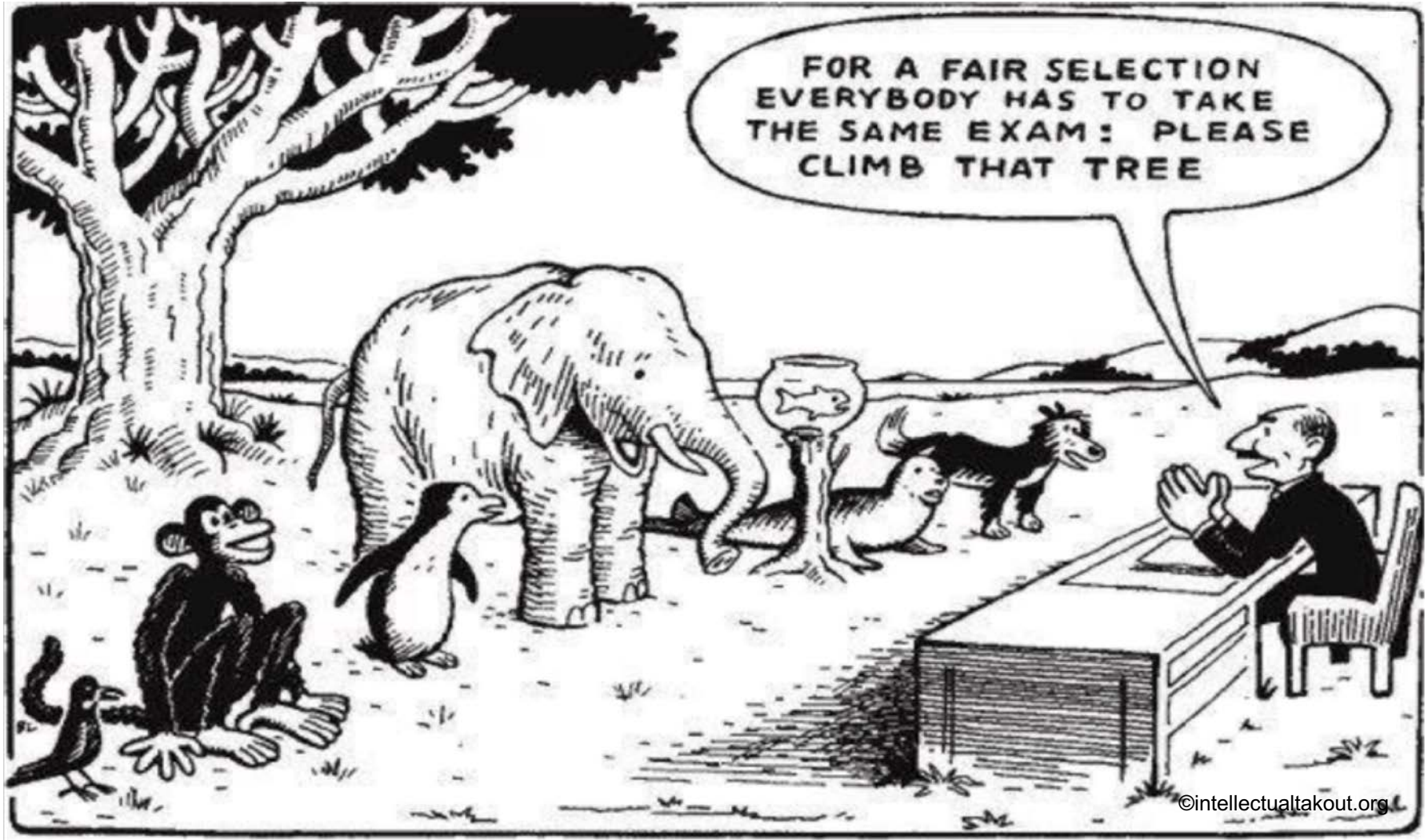
Kortext

Digital Content Store

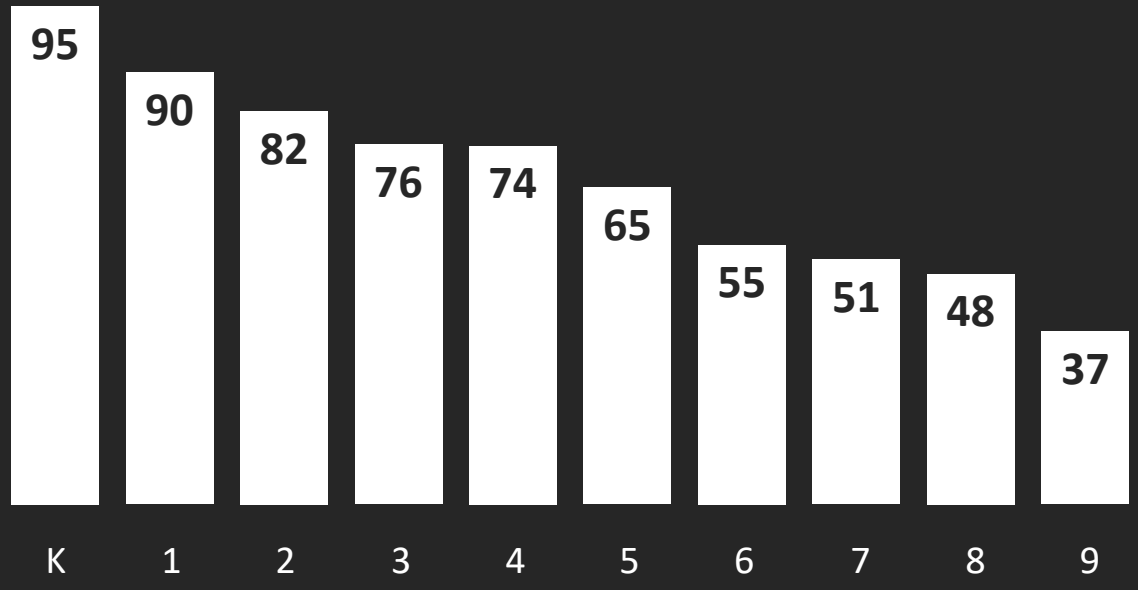
KEY LINKS

KEY LINKS

Current Education


FOR A FAIR SELECTION EVERYBODY HAS TO TAKE THE SAME EXAM: PLEASE CLIMB THAT TREE
©intellectualtakout.org

DO YOU LOVE SCHOOL?



Lee Jenkins: School Administrator May 2012. Reversing the Downslide of Student Enthusiasm

today's workplace has evolved...

60% of employers: "Applicants lack communication and interpersonal skills" Workforce Solutions Group - Nov '13
44% of employers "Communication, critical thinking, creativity, collaboration biggest skill gap" Adecco - Oct '13
Top New Hires priorities: "Team player, problem solver, plan, organize, prioritize" Nat'l Ass. Colleges & Employers - Sep '13

…but our classrooms have not

Skills for tomorrow's workforce

Insights into transformative teaching practices

Problem solving and innovation

Global awareness

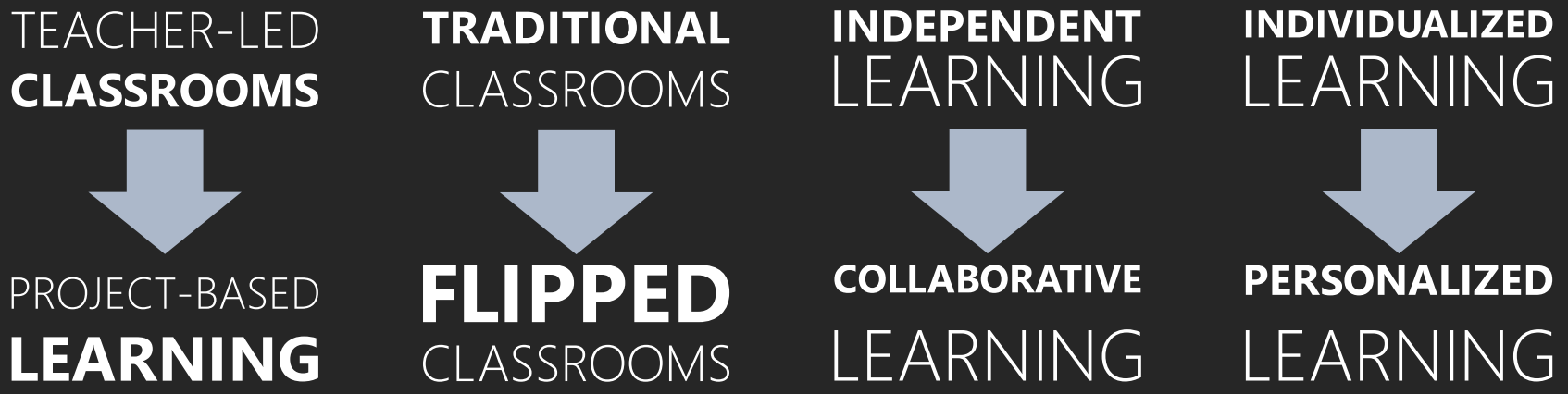
Knowledge construction

Skilled communication

Self-regulation and assessment

Collaboration


THE LEARNING
SHIFT
IS HAPPENING
NOW

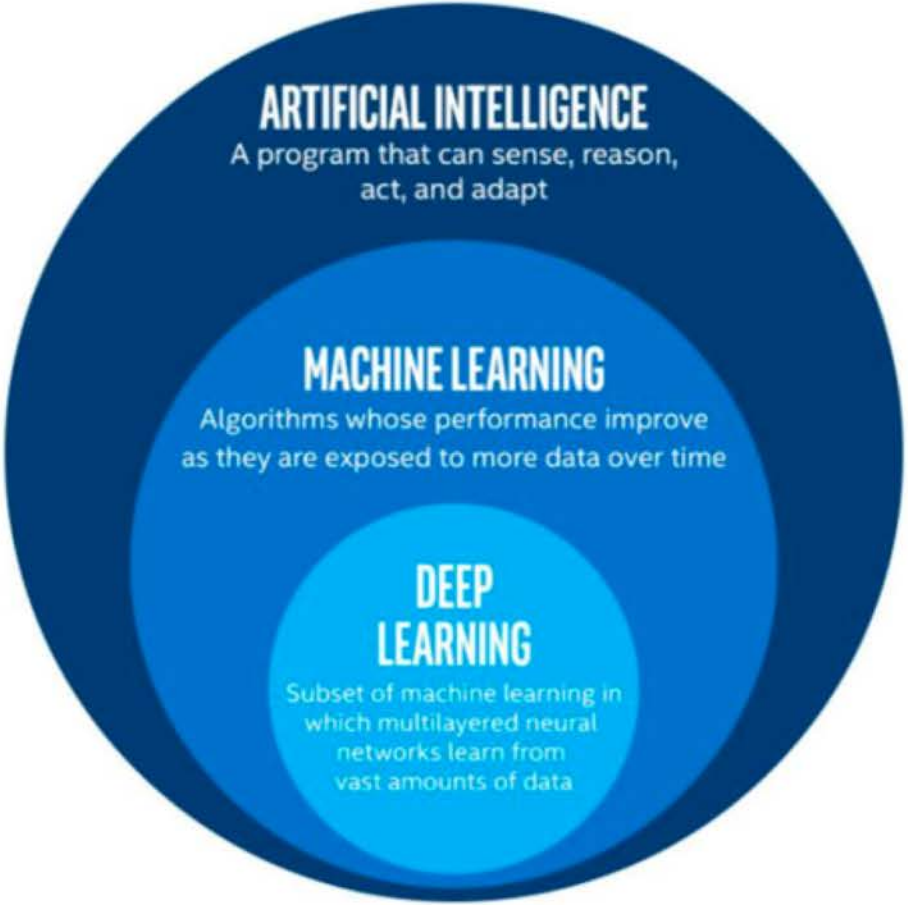

TEACHER-LED
CLASSROOMS
PROJECT-BASED
LEARNING
TRADITIONAL
CLASSROOMS
FLIPPED
CLASSROOMS
INDEPENDENT
LEARNING
COLLABORATIVE
LEARNING
INDIVIDUALIZED
LEARNING
PERSONALIZED
LEARNING

WHAT DOES
THE NEW
PARADIGM
LOOK LIKE?

Content

SHOULD KNOW
WHO YOU ARE


INCREASE COST EFFECTIVENESS
REDUCE TIME TO DEGREE
1
INCREASE EFFICIENCY AND PERFORMANCE
EXPAND AFFORDABLE ACCESS TO LEARNING
2
IMPROVE LEARNING OUTCOMES AND STUDENT SUCCESS
FOSTER EFFEC TIVE LEARNING
ENABLE RESEARCH COLLABORATIONS
3
IMMERSIVE & PERSONALIZED LEARNING FOR ALL



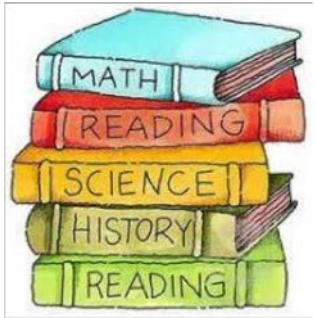
AI isn't just another piece of technology. It could be one of the world's most fundamental pieces of technology the human race has ever created.

— Satya Nadella

THE TRANSFORMATION OF LEARNING IS HAPPENING – DRIVEN BY ED-TECH

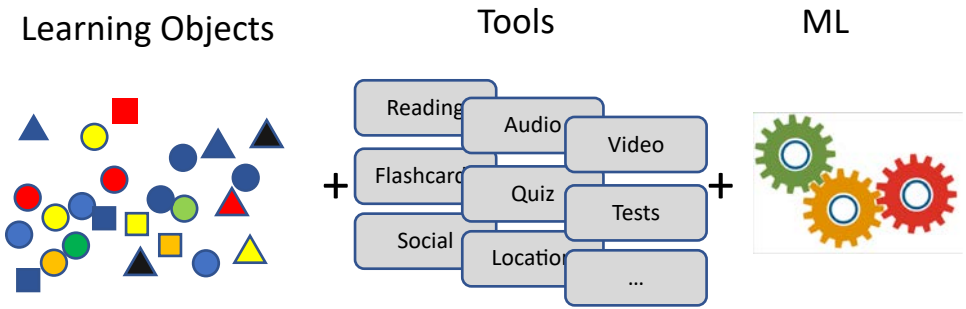
Requires robust infrastructure + a deep knowledge in machine learning (ML)

Today



- Publishers curate and aggregate content
- Books are the primary medium - along with eBooks, audio and video.
- Most publishers produce simple PDFs/ePub

Tomorrow



- Disaggregation of content to learning objects
- Effectiveness of digital learning tools becoming accepted fact mainstream
- Core of digital learning centered around personalized and adaptive learning experiences – driven by ML
  - ‘what content works now best for student x to learn subject y’
  - ‘what tools works now best for student x to learn subject y’
- Increased focus on blended learning concepts

Blueprint for the SMART Nation

Kortext

The Egyptian Knowledge Bank (EKB)

The World's Largest Learning Environment and Materials Library

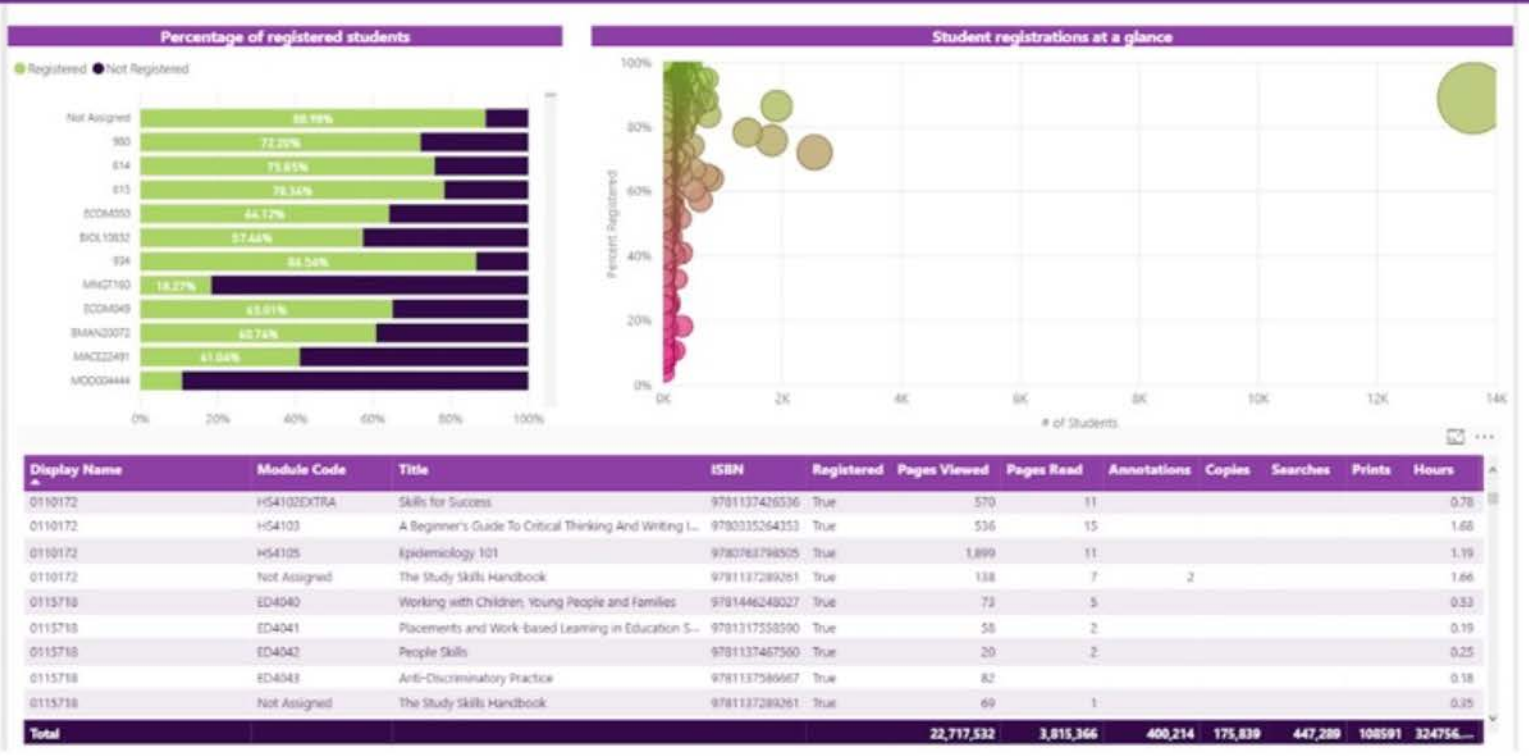
"The ambition and leadership the Egyptian Government has exhibited in creating country-wide access to world class content, on this scale, is a truly ground-breaking development. We believe such a knowledge bank for our citizens, delivered through Kortexts' inclusive personal study platform, will help Egypt's knowledge economy accelerate."

His Excellency, Dr Tarek G. Shawki
Minister of Education and Technical Education for Egypt

Analytics Dashboards for improved learning

Analytics to track and report progress of education outcomes

Analytics



Display Name	Module Code	Title	ISBN	Registered	Pages Viewed	Pages Read	Annotations	Copies	Searches	Prints	Hours
0110172	HS4102EXTRA	Skills for Success	9781137426536	True	570	11					0.78
0110172	HS4103	A Beginner's Guide To Critical Thinking And Writing i...	9780335264353	True	536	15					1.68
0110172	HS4105	Epidemiology 101	9780763798605	True	1,899	11					1.19
0110172	Not Assigned	The Study Skills Handbook	9781137289261	True	138	7	2				1.66
0115718	ED4040	Working with Children, Young People and Families	9781446248027	True	73	5					0.53
0115718	ED4041	Placements and Work-based Learning in Education S...	9781137558590	True	58	2					0.19
0115718	ED4042	People Skills	9781137467560	True	20	2					0.25
0115718	ED4043	Anti-Discriminatory Practice	9781137586667	True	82						0.18
0115718	Not Assigned	The Study Skills Handbook	9781137289261	True	69	1					0.35
Total					22,717,532	3,815,366	400,214	175,839	447,289	108591	324756....

Trends

Trends Tab

- Track eBook title usage over time

✓ Pages accessed
✓ Pages read
✓ Pages viewed
✓ Hours
✓ Prints
✓ Copies
✓ Searches

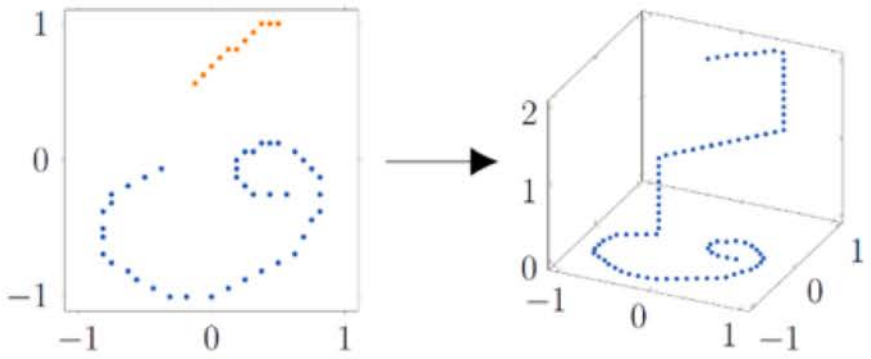
- Identify titles that have stopped being accessed

Tech/data driven solutions - some Examples

Online Arabic Handwritten Character Recognition

Using what is known as the dyadic signature of a path, online handwritten Arabic character data can be classified well.

- The dyadic signature contains all information about the character in a few numbers
- Using deep learning tools with the transformed character, the character is classified
- This can be used on phones and tablets



$$S^N_{[d_i,d_{i+1}]}(X) = \left(1, X^1_{[d_i,d_{i+1}]}, \dots, X^N_{[d_i,d_{i+1}]}\right)$$

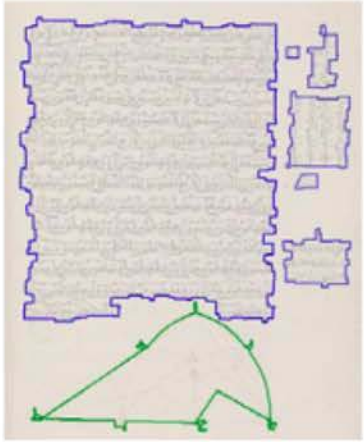
$$X^n_{[d_i,d_{i+1}]} = \int_{\substack{u_1 \le \cdots \le u_n \\ u_1,\dots,u_n \in [d_i,d_{i+1}]}} \mathrm{d}X_{u_1} \otimes \dots \otimes \mathrm{d}X_{u_n}$$

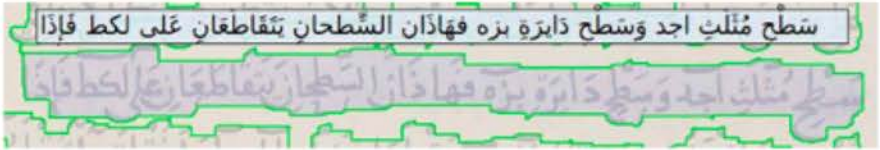
The Alan Turing Institute

Historic Arabic Scientific Manuscript Competition

The Alan Turing Institute

- Working with staff from the British Library and PRIMA in Salford, ran competition on OCR for historic Arabic scientific manuscripts
- Entrants from Middle East and USA (including Google)
- Participants achieved greater than 80% accuracy on OCR





United States Geography

Class > Geography

The study of Earth's landforms is called physical geography. The seasons, the atmosphere and all the natural processes of Earth affect where people are able to live.

Landforms can be mountains and valleys. They can also be glaciers, lakes or rivers. Landforms are sometimes called physical features. Geography is one of a combination of factors that people use to decide where they want to live.

Velocity

Your notion of velocity is probably the same as its scientific definition. You know that if you have a large displacement in a small amount of time you have a large velocity, and that velocity has units of distance divided by time, such as miles per hour or kilometers per hour.

Average Velocity

Average velocity is *displacement (change in position) divided by the time of travel*,

$$\bar{v} = \frac{\Delta x}{\Delta t} = \frac{x_f - x_0}{t_f - t_0}, \tag{2.5}$$

where $\bar{v}$ is the *average* (indicated by the bar over the v) velocity, Δx is the change in position (or displacement), and x_f and x_0 are the final and beginning positions at times t_f and t_0, respectively. If the starting time t_0 is taken to be zero, then the average velocity is simply

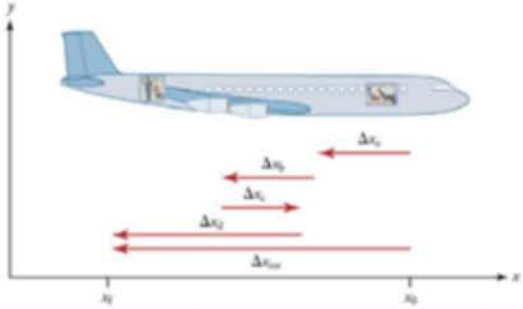
$$\bar{v} = \frac{\Delta x}{t}. \tag{2.6}$$

Notice that this definition indicates that *velocity is a vector because displacement is a vector*. It has both magnitude and direction. The SI unit for velocity is meters per second or m/s, but many other units, such as km/h, mi/h (also written as mph), and cm/s, are in common use. Suppose, for example, an airplane passenger took 5 seconds to move −4 m (the minus sign indicates that displacement is toward the back of the plane). His average velocity would be

$$\bar{v} = \frac{\Delta x}{t} = \frac{-4\ \text{m}}{5\ \text{s}} = -0.8\ \text{m/s}. \tag{2.7}$$

The minus sign indicates the average velocity is also toward the rear of the plane.

The average velocity of an object does not tell us anything about what happens to it between the starting point and ending point, however. For example, we cannot tell from average velocity whether the airplane passenger stops momentarily or backs up before he goes to the back of the plane. To get more details, we must consider smaller segments of the trip over smaller time intervals.



1 question(s) added

Create Assessment

Question

Answer

Edit question type...

Why do we indicate that velocity is a vector?

Because displacement is a vector.

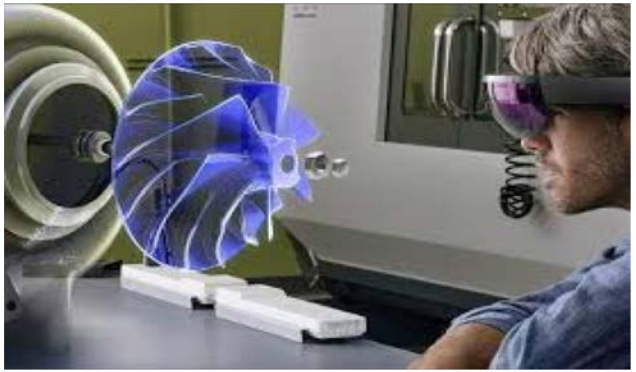
If there is a large displacement in a small amount of time, what do you have?

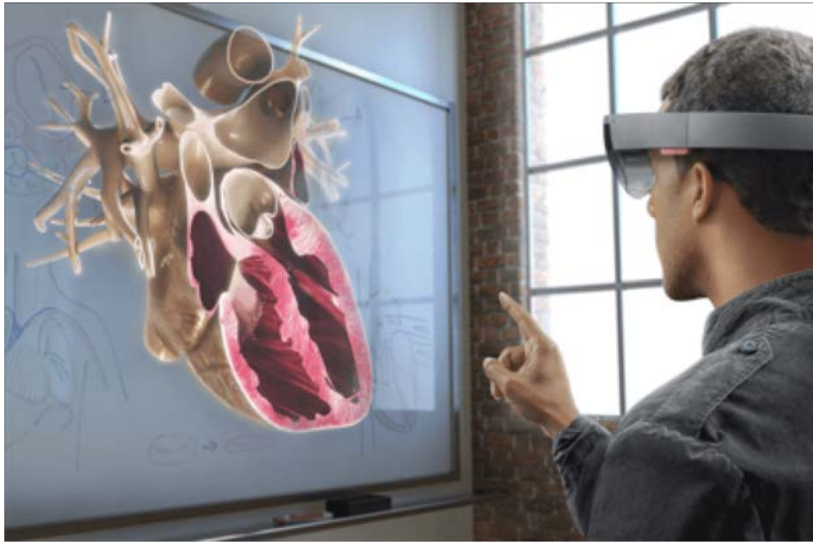
A large velocity is created.

What is instantaneous speed?

The magnitude of instantaneous velocity.

Mixed reality





Why is this important?

- Is the secondary rights licensing vulnerable to challenge?
- How can CMO’s better support the sector?
- Services over policing and collection
- Can content be atomised into learning objects and made readily available?
- How can technology be better utilised to enable easy access of the right content at the right time?
- How can the impact on teaching and learning be measured?

Thank you

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