



Cambridge Assessment
International Education

Cambridge Schools Conference, Orlando
23-24 June 2023
#camschoolsconf

Building digital assessment capability to advance the potential of the Cambridge learner

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Head of Digital Assessment & Evaluation

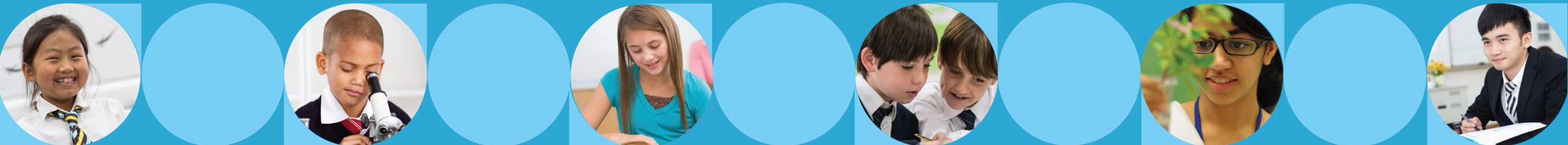
Cerys Burcher

Head of Digital Product Development

Sanjay Mistry

Head of Research for Digital Assessment & Evaluation

Date: 23rd & 24th June 2023



In this session

- ▶ Why Digital Assessment?
- ▶ Guiding insight from students and teachers
- ▶ The Cambridge approach to digital assessment development
- ▶ Challenges ... and overcoming them step by step

The role of digital in assessment

Why digital?

What is the future of assessment
and what role can digital play?



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Global Research with students and teachers

100s
hours

1:1 interviews
with users

1000s

survey
responses



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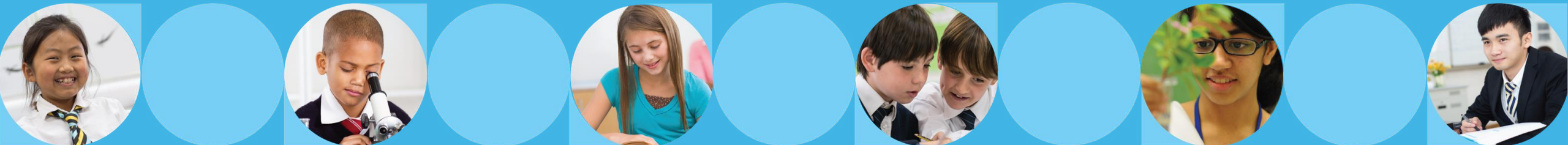
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“Technology has been **a blessing but also a curse**. Without it, kids would have just been abandoned [during the pandemic]. We wouldn’t have been able to do anything. But necessity breeds innovation. You adapt. But technology is such a distraction, it is still limited.

Is there a role? Yes.
Is it the answer to everything? **No.**”

USA, Math Teacher, June 2021



What should we prioritise?

- ▶ Cambridge/ digital cannot address all of the nuanced challenges educators face. We need to understand areas where teachers and learners are **underserved** by current assessment options –

What important outcomes are not being met?

Single biggest desire

A shift away from only using end of year exams for results is by far the most common desire teachers have around assessment

- ▶ Coursework
- ▶ Continuous grading (US model)
- ▶ Modular exams
- ▶ Project-based work

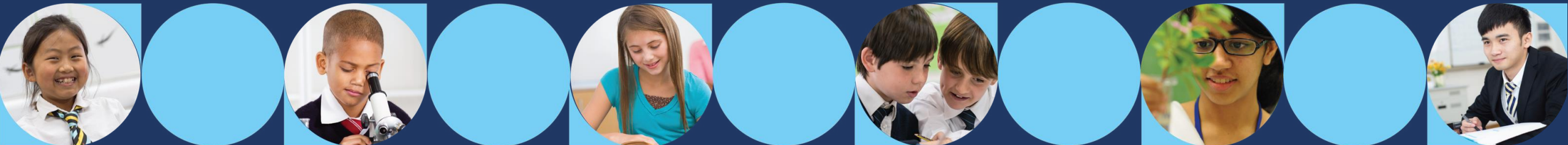


I believe there should be an element of **coursework in all subjects**, as that can allow some students to achieve when they have anxiety or literacy obstacles to their performance in external exams.

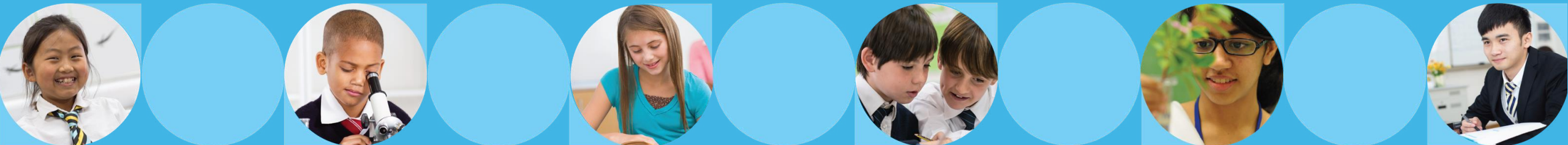
Design teacher, UK

I would dispense with traditional exams and replace them with a series of standardized project-based assessments. The assessments would focus on the application of **subject-based skills** rather than assessing how well the students memorized content.

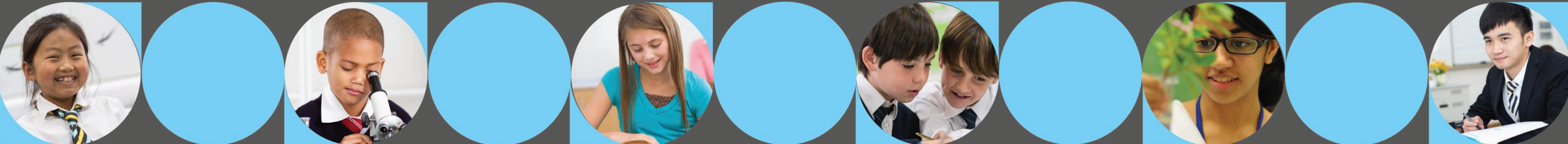
Head of English, Malaysia.



What should we be assessing that we do not currently?



[Menti results]



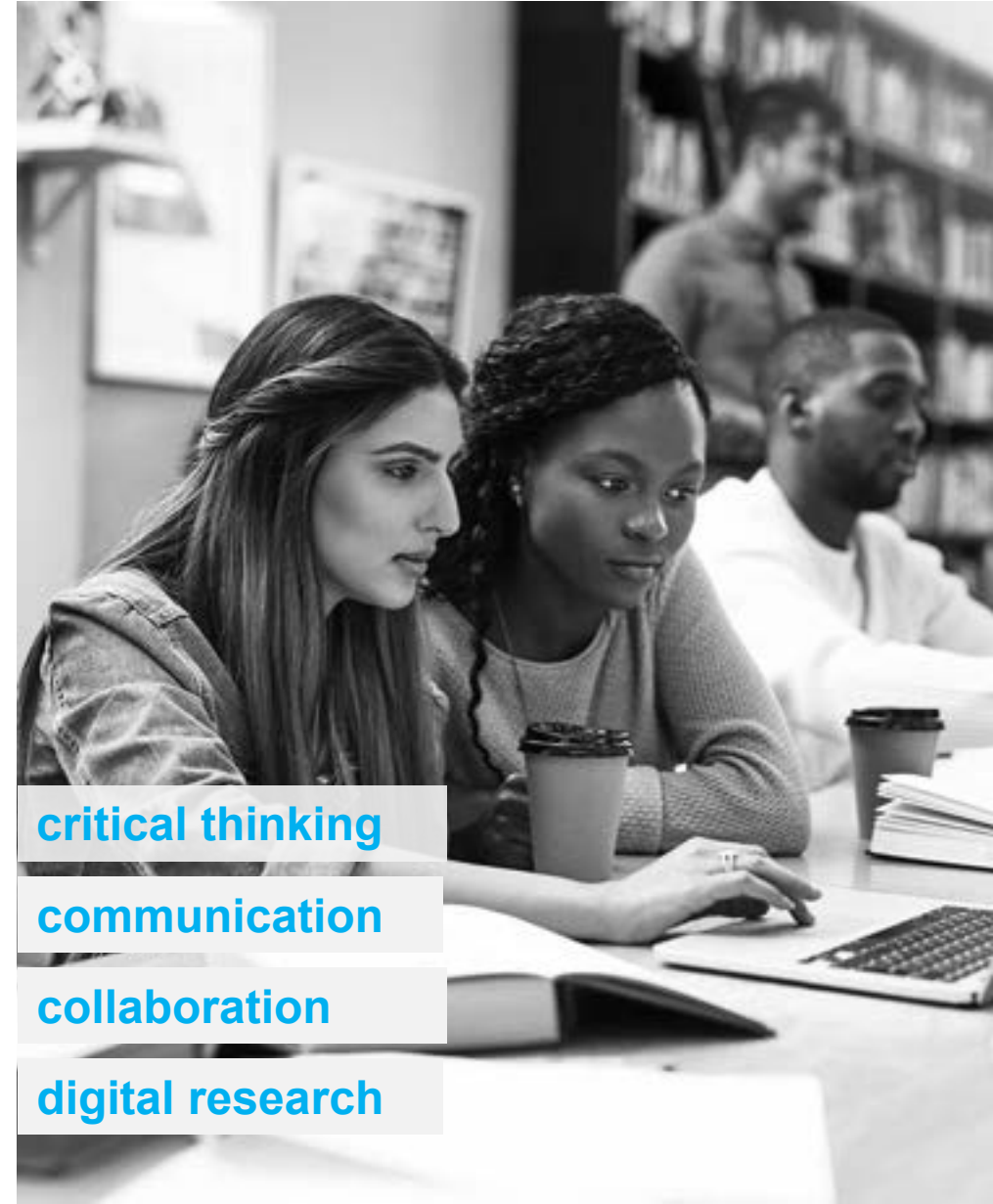
Under-served needs

Support development of deeper subject understanding

To assess wider skill sets/ competencies

Access to assessment data

Closely linked to the process of teaching and learning



critical thinking

communication

collaboration

digital research

Two routes to Digital Assessment

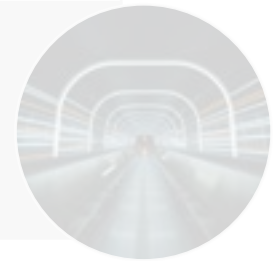
Using current
curricula and
existing
technology

**Migrated
assessments**



Going digital with
new curricula and
emerging
technology

**Born digital
assessments**



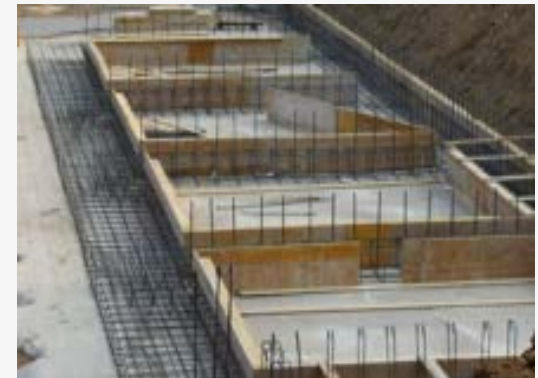
User research



Adding value for our customers



Evidencing effective on-screen assessment



Stronger digital capability foundations



Starting points: Subjects and capabilities

Subject-led



Computer
Science



Media Studies



Modern Foreign
Languages

Capability-led



Analysing data



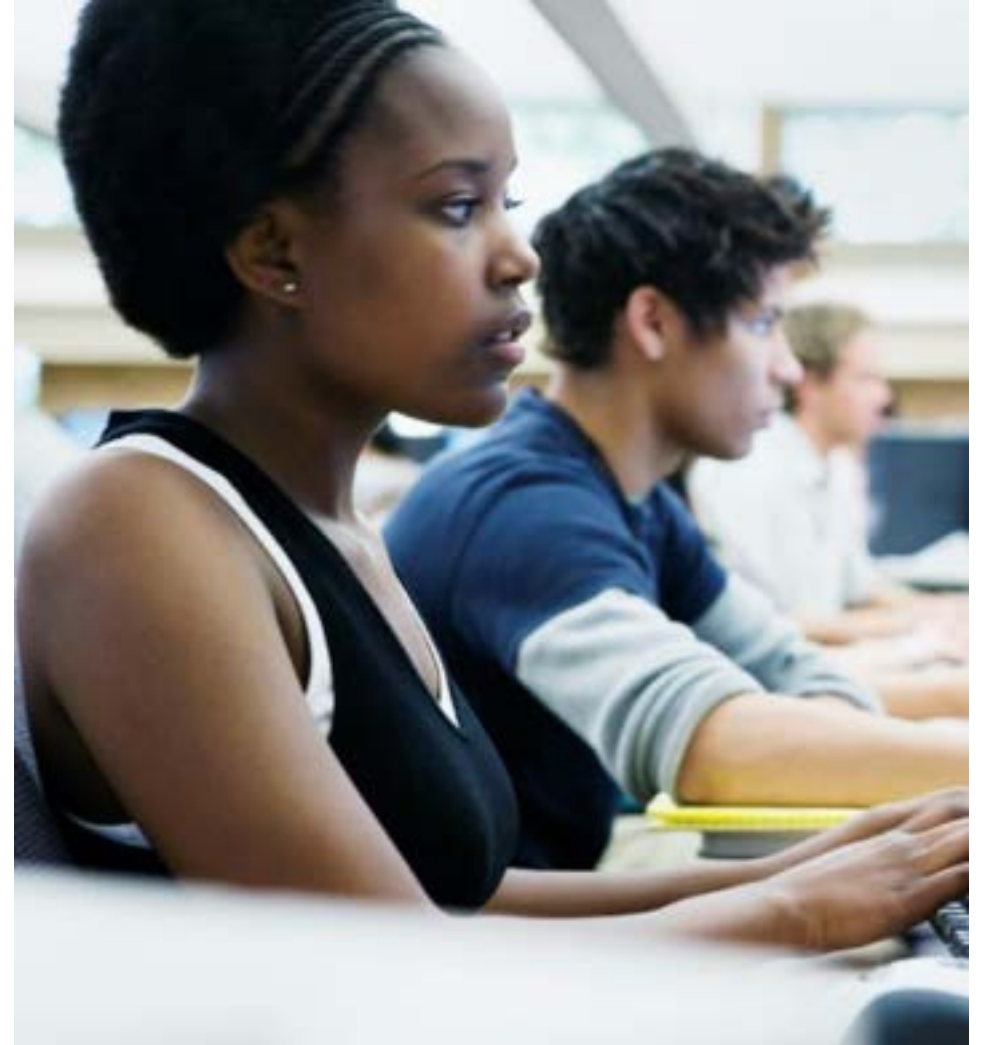
MCQs



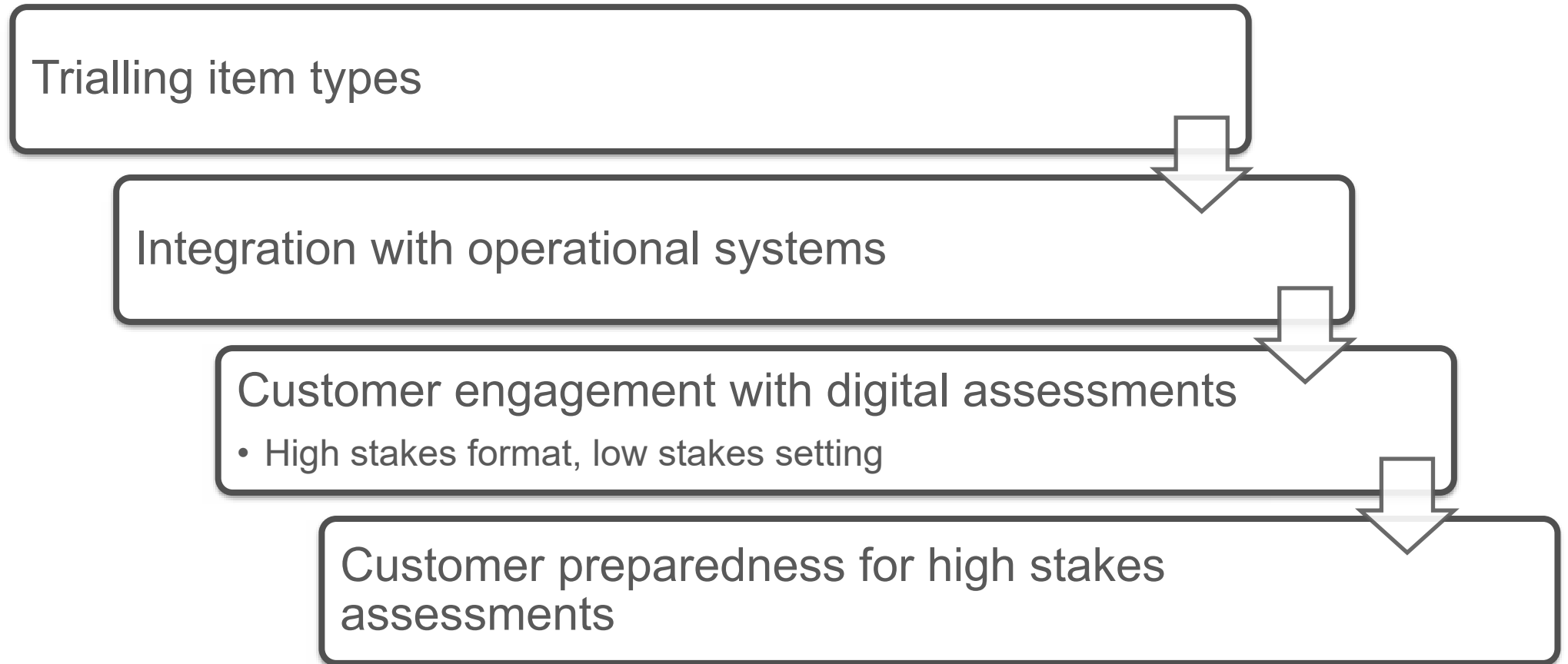
Long form
answers

Cambridge Digital Mocks Service

- ▶ **Pre-made Digital Mocks exams**
with questions in the same style and standard as the final exam
- ▶ **Marked by Cambridge examiners**
for accuracy and reassurance with results returned within 14 days
- ▶ **Results data**
provided on student performance and to help identify gaps in learning
- ▶ **Supports teachers and students**
to identify where to focus interventions and revision

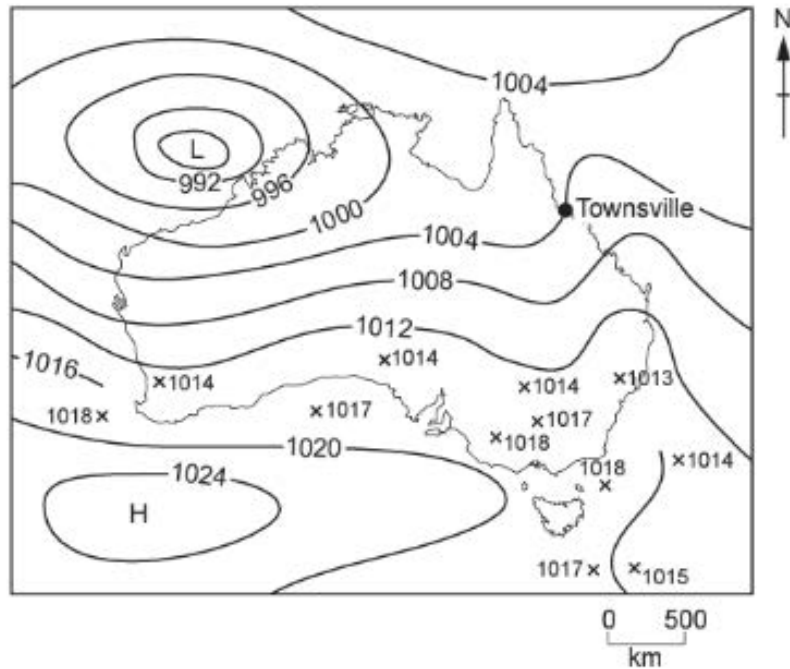


Using the Mocks Service to support wider development



Uncover and design challenges with existing content

(a) Isobars join points of equal air pressure on a weather map. Fig. 5.1 shows the air pressure on one morning across Australia.



Key
H — high pressure

(iv) On Fig. 5.1, complete the isobar for 1016mb.

[1]

(c) Fig. 1.2 is a cross section from point X to point Y in Fig. 1.1.

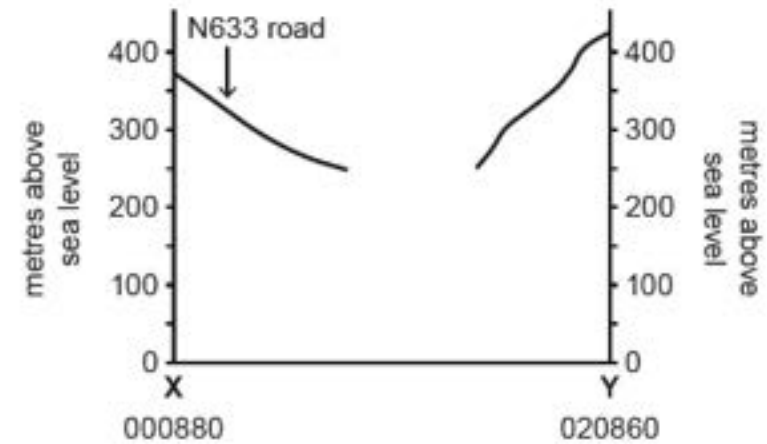
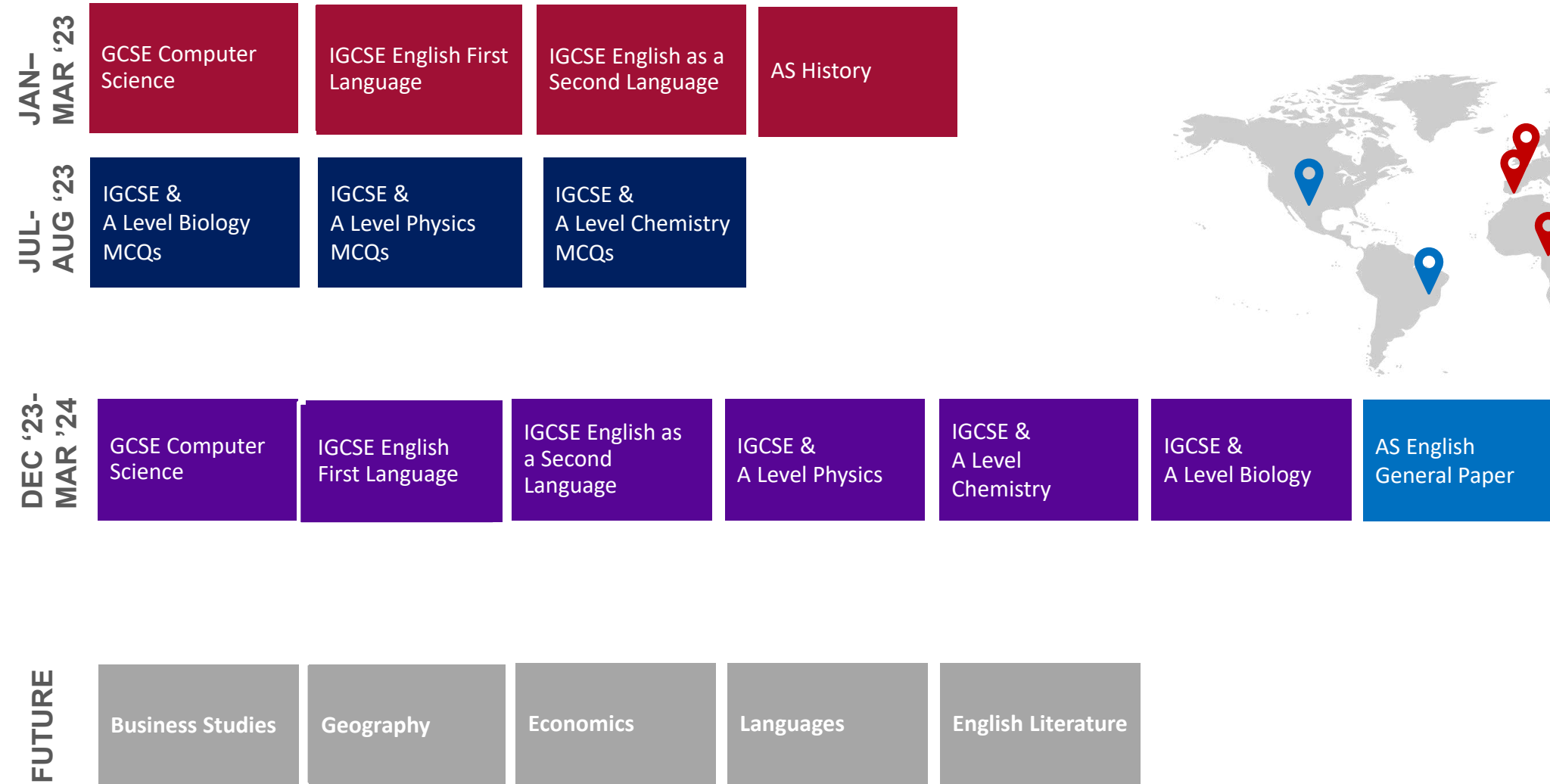


Fig. 1.2

(i) The cross section shown in Fig. 1.2 is incomplete. Using information from the map extract, draw a line on Fig. 1.2 to complete the cross section. [2]

Digital Mocks Service: Subject roadmap



Digital Mocks Service: Jan – Mar' 23 Insight

"I expect future exams to have more typing instead of writing." (Learner, Indonesia)



70 STUDENTS

92% CI learners preferred **TYPING** their responses

58% CI learners found **WORD COUNT** useful

40% OCR learners reported **FASTER EXAM COMPLETION**

Learners found on-screen **TIMER** useful

58% CI learners requested **HIGHLIGHTER/ANNOTATION TOOLS**

50% CI learners requested A **DRAFTING AREA**

"The typed format was very nice, I must say. Readability for examiners is a big issue." (Examiner)



10 EXAMINERS

100% Examiners preferred **TYPED RESPONSES**

Examiner requested marking interface **improvements**

Digital Mocks Service: Jan – Mar' 23 Insight

16 TEACHERS & CENTER STAFF

“Doing an exam on screen is faster and easier for the learners to correct their mistakes and count the words”
(Teacher, Indonesia)



“Having someone from the exam board doing the marking was like it had been moderated or your marks being moderated and ratified ... so that was good.” (Teacher, UK)

Teachers valued examiner marked Mocks **HIGHLY**

60% centres were **SATISFIED WITH SUPPORT MATERIAL OFFERED**

100% teachers requested **INDIVIDUAL STUDENT REPORTS**

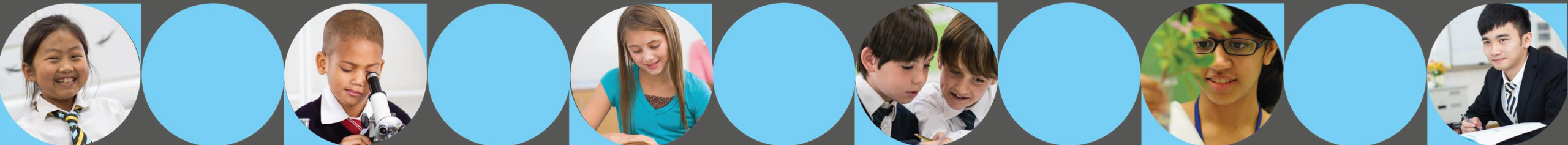
57% teachers requested **LOCKDOWN MODE**

“Mocks are to be taken seriously because we need the **evidence** to support teaching and learning”

“Using the on-screen service was **quick and easy** to use. Digital assessments are inevitable and the way of the future”

“Because it’s externally marked, it’s a trustworthy piece of data with **no bias** in there at all”

“Enormously useful...**saved time** from having to prepare the papers, scanning them in and sending them off ”



Two routes to Digital Assessment

Using current
curricula and
existing
technology

**Migrated
assessments**



Going digital with
new curricula and
emerging
technology

**Born digital
assessments**



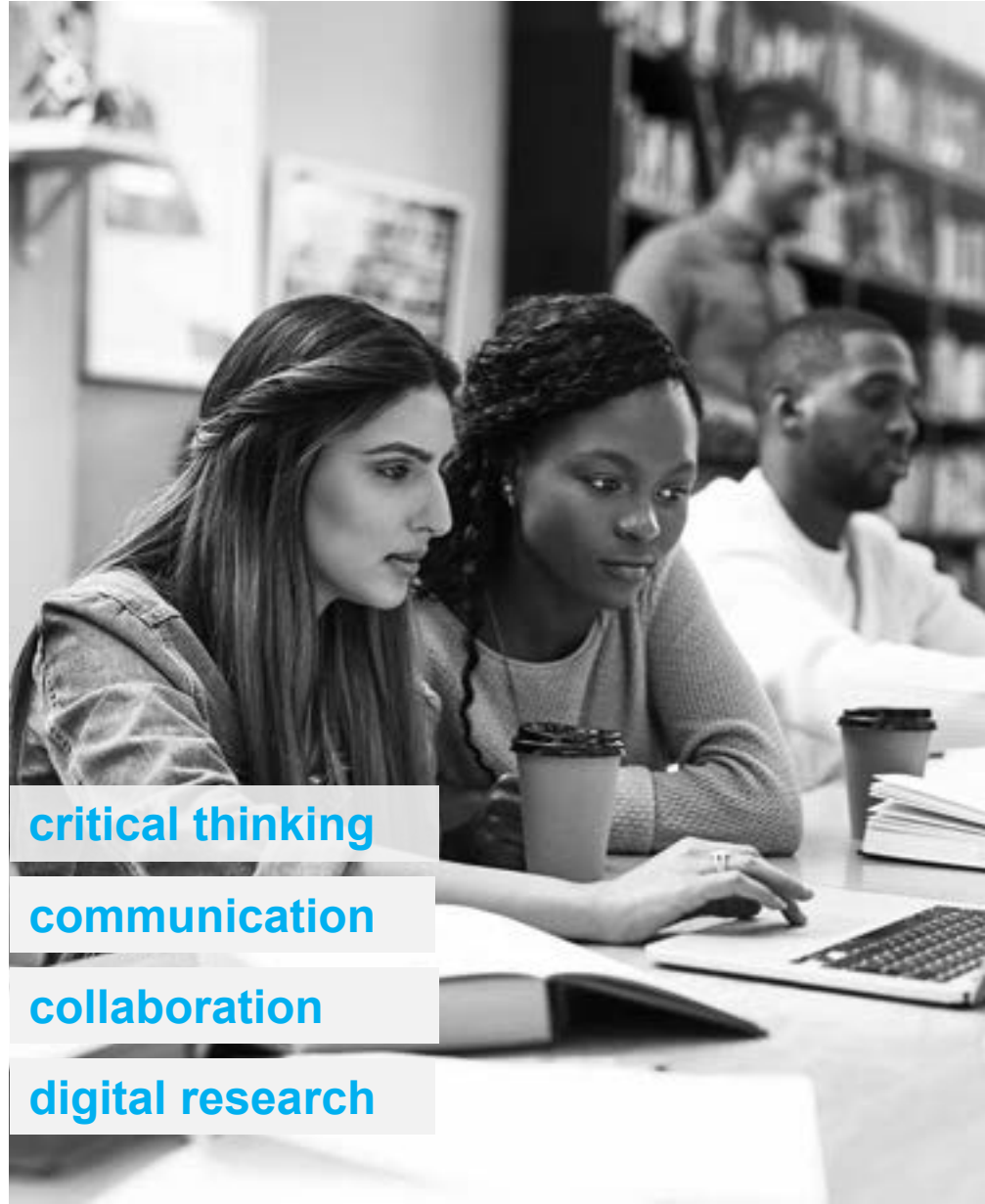
Under-served needs

Support development of deeper subject understanding

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digital research

Our “born digital” assessments

Subject-driven and/or competency-based, building in **variability** in our assessment capability.

Computer Science



Computational thinking assessment



Practical programming project

Historical Research



Source analysis and Interpretation



Digital research project

Data Literacy



Authentic data enquiry



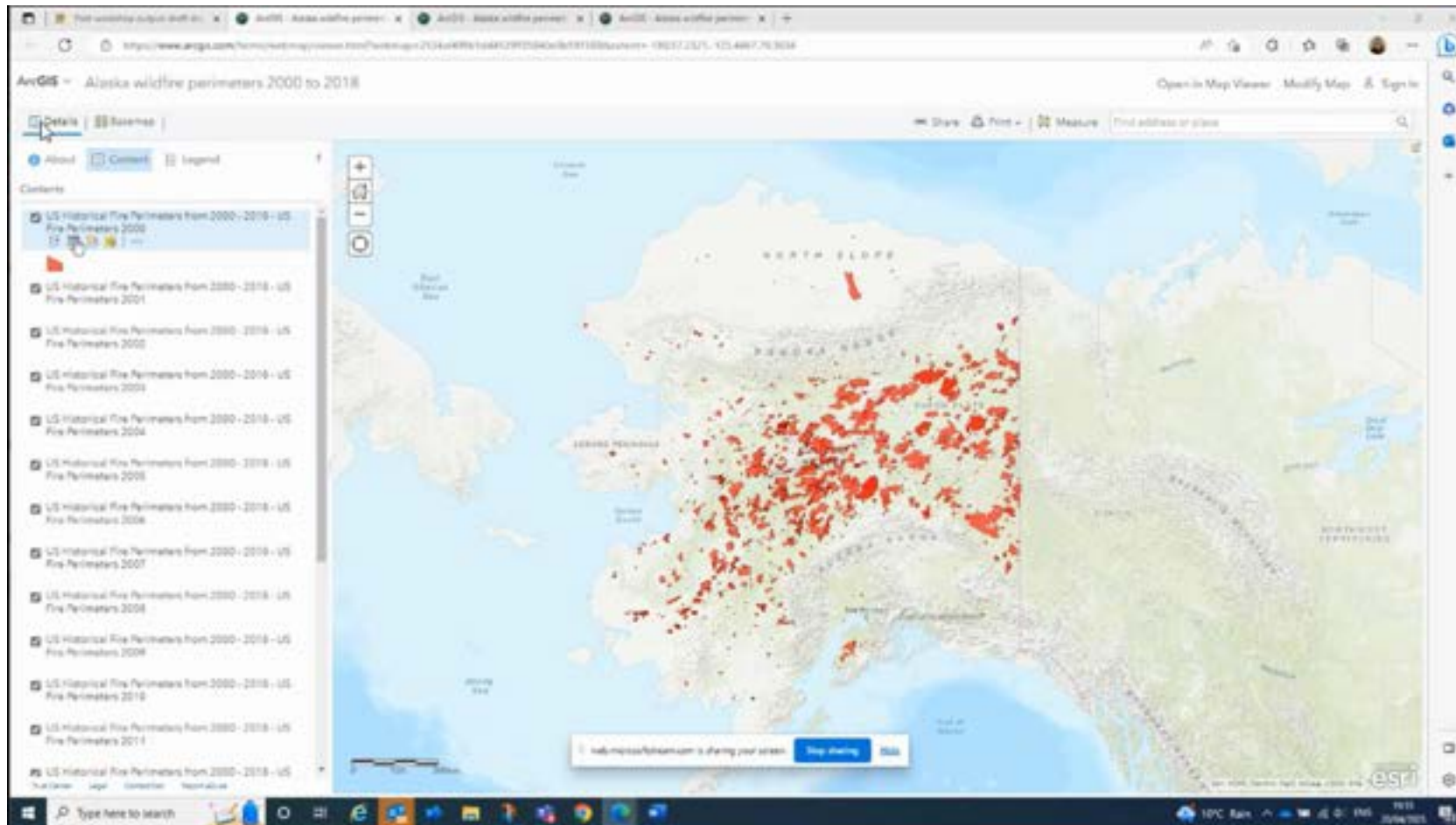
Geographic Information System data

Digital Coursework

Data sets

Digital research. Critical Thinking. Collaboration.

Data Literacy assessment development



Credit: Nicola Twitchett, Ross Robertson

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Planned releases – Syllabus launch and assessments

2023

Digital Mocks Service Launch

GCSE CompSci	IGCSE English First Lang
IGCSE English Second Lang	AS English Gen Paper
IGCSE & A Level Physics MCQ	IGCSE & A Level Chemistry MCQ
IGCSE & A Level Biology MCQ	

2024

PLS Computing First Assess

2025

IGCSE CompSci First Teach

Science MCQ Components First Assess

2026

AL Media Studies First Teach

AS Data Literacy First Teach

AS English General Paper First Assess

MCQ Components
Subject additions tbc

2027

IGCSE CompSci First Assess

AS History First Teach

2028

AL Media Studies First Assess

AS Data Literacy First Assess

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Steps and Challenges

Digital Assessment & Evaluation Research Methodology

Research and **evidence** underpins every area of our work in developing Digital Assessment and Evaluation products and services.



We also consider:

- Accessibility in Digital Assessments
- School readiness
- Link to use in teaching and learning

Accessibility Considerations

Assessment Content

• *'All assessment content should be accessible'*

Test Design

• *'The overall test design should not create unnecessary barriers to learners'*

User Interaction

• *'Interactive elements must be designed to be intuitive and function as required for all users'*

Assistive technology

• *'Tests need to be designed to incorporate assistive technologies and tools, including types of equipment or devices, that help learners compensate for a disability.'*

Accessibility Tools

• *'Platform embedded or web based accessibility tools should be employed in digital assessments as required'*

Those relevant to all learners (Universal Design) – need to be considered at all stages of product discovery

Those relevant to a sub-set of learners – product development



WCAG Guidelines



Checklists



Internal Resource

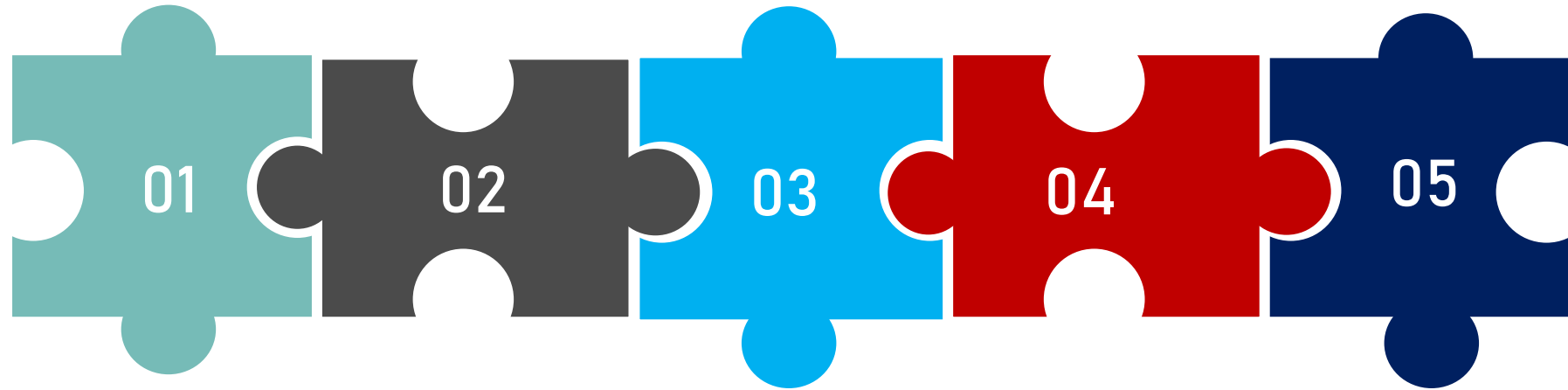


Platform Guidance



Web plug-ins

Digital High Stakes - capability development



**Digital
candidate
entries**

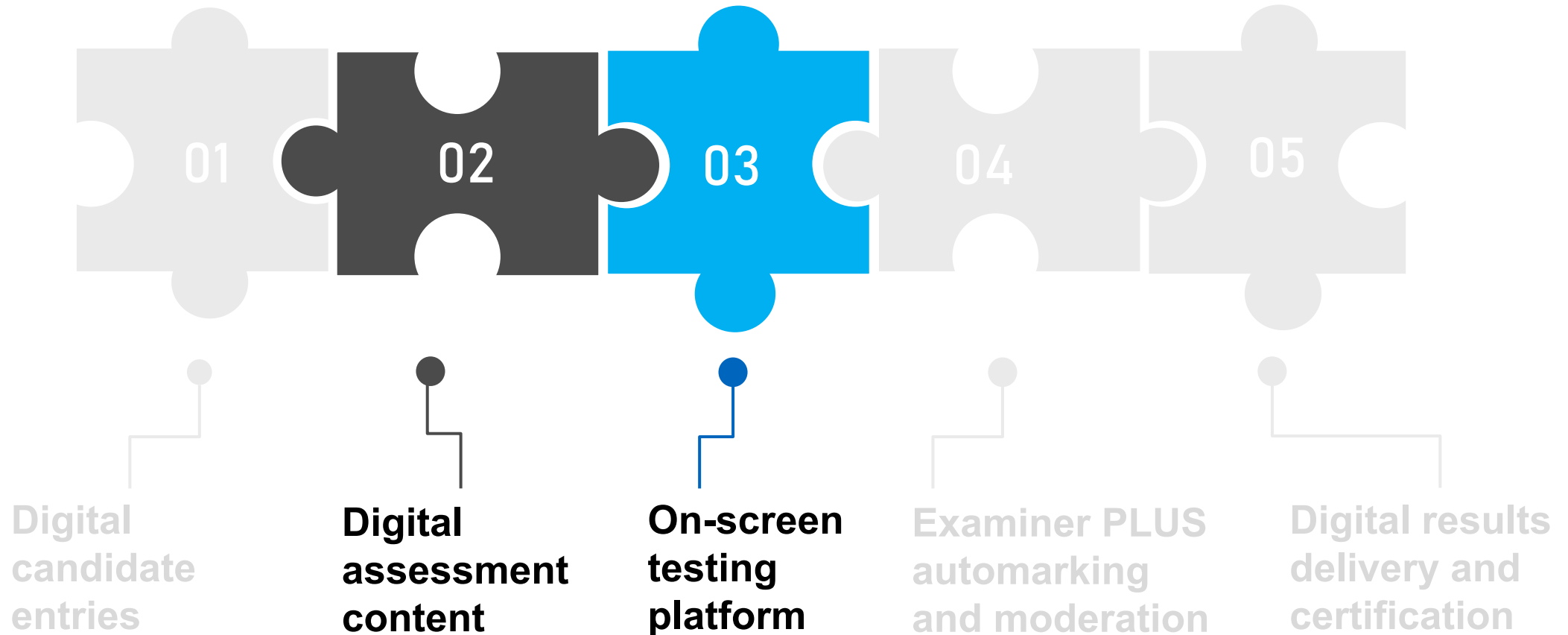
**Digital
assessment
content**

**On-screen
testing
platform**

**Examiner PLUS
automarking
and moderation**

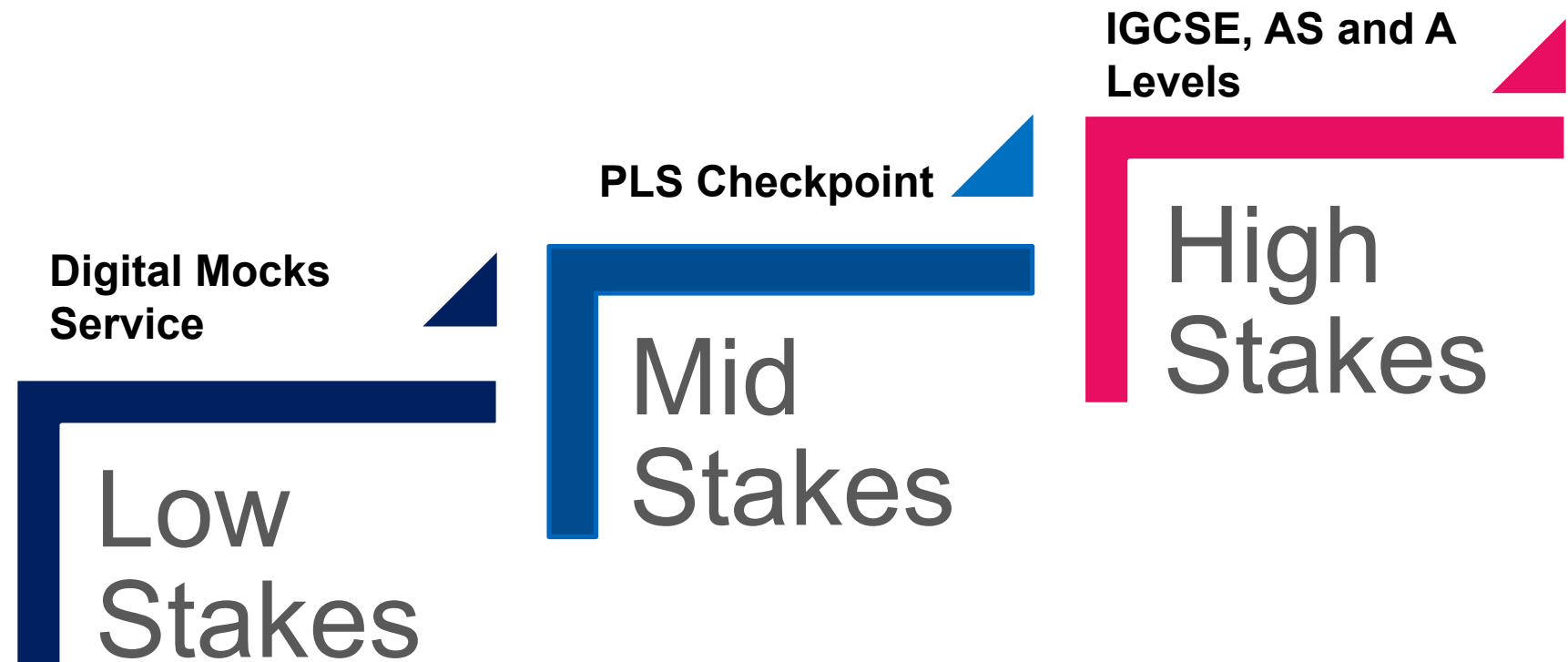
**Digital results
delivery and
certification**

Digital High Stakes - capability development



Digital High Stakes - capability development

Our capability development programme is designed as a series of steps from **low** to **high stakes** to develop, test and prove technical and operational capability at every stage to **reduce risk** of unforeseen technical problems during a high stakes examination.



Steps to Digital Adoption

- Centers will acquire digital in steps
 - Requires hybrid approach
 - **Not** all assessments will be taken digitally
 - Only those that it makes sense or improves efficiency



Digital Assessment Readiness

Digital assessment readiness:

'The ability to successfully host, deliver and run any form of digital assessment, whether in class or as an exam series, within the school setting.'

Regional Readiness Criteria need to be considered

Group 1 - Schools that have very good IT infrastructure (including hardware, resources, and strong internet connectivity)

Group 2 – Schools that have adequate IT Infrastructure and good connectivity,

Group 3 – Schools that have some IT infrastructure and intermittent connectivity,

Group 4 - Schools that have very limited or no IT infrastructure and weaker connectivity.



How can Cambridge support schools?

We need to learn from you!

Our successes so far have been from working very closely with schools.

- What sort of support would you require?
- What are your expectations from Cambridge at a:
 - School level
 - Classroom level
 - Learner level



What digital assessment means for Cambridge Schools



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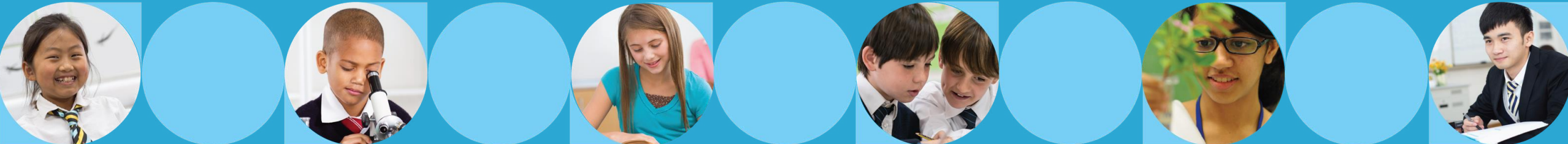
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Thank you
Any questions?



Your feedback

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- ▶ Scan the QR code and share your feedback with us



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