CAS Virtual Showcase 2020 - Quantum workshops

Part of the Computing at School Assessment Working Group organised by John Woollard - 22 June 2020

These workshops organised by Dr Richard Millwood
Visiting Research Fellow, Trinity College Dublin
richardmillwood@mac.com
@richardmillwood

The Quantum Project is a CAS development over the last four years or so to develop a bank of online multiple choice questions from teachers and others, now hosted on the Eedi / Diagnostic Questions platforms with over 11,000 items. Many teachers have contributed, as have major organisations such as ARM, NCCE and CCEA in Northern Ireland.

My proposal:

> **CAS did a good thing here**, but the project needs sustenance. It is characterised as being concerned with reliable and informative evidence for teachers to steer practice through a **pedagogic AfL (Assessment for Teaching)**, but not so often as an independent means of learning through **AfL for students**, especially in these times. Even more valuable, I think, is to realise the potential for students in **initial teacher education** and teachers involved in **continuing professional development**. If teachers analyse the evidence already gathered and get involved with improving/developing content it is a powerful way to engage with the curriculum and the performance expected of students, at least in those areas of competence that multiple choice questions can address.

We introduced the Assessment Working Group on Monday 22 June, you can read the slides I present(ed) here.

We reported back as part of the Assessment Working Group closing session on Thursday 2 July - slides.

The organisation of the Quantum workshops is on the following page.

Workshops

	Introduction to CAS Assessment Working Group	WORKSHOP 1 Engaging with Quantum content	WORKSHOP 2 Investigating the Quantum data	WORKSHOP 3 Exploring Quantum futures	Report back
Objective	To explain the activities and set goals.	Doing a quiz, a chance for teachers new to the project to understand what it is about.	To look at some of the data about learners' responses to identify attainment and misconceptions.	An open discussion about whether and how the project could develop.	To sum up what we covered in the three sessions and any outcomes or recommendations.
Activity	Listen to 15 minute introduction	Listen to a brief explanation of Quantum material and answer a quiz with explanations. Reflect on answers given.	Short presentation of quantitative data on performance in selected questions & investigation of learners' responses. Reflect on analysis.	Discussion about participant's priorities and issues that have arisen.	15 minute report
Audience	All	All, but particularly participants new to Quantum	All	All	All
Time	15 minutes presentation as part of the CAS Assessment Working Group's presentation. From 13:00 to 13:45 on Monday 22 June	60 minutes synchronous online meeting to explain, help participants complete a quiz and then lead a discussion. From 16:00 to 17:00 on Wednesday 24 June	60 minutes synchronous online meeting to show how to look at data and present some learners' explanations and then lead a discussion. From 16:00 to 17:00 on Friday 26 June	60 minutes synchronous online meeting to report outcomes from events so far, hear from participants and consider futures. From 16:00 to 17:00 on Tuesday 30 June	15 minutes presentation as part of the CAS Assessment Workign Group's final session. From 14:00 to 14:45 on Thursday 2 July

WORKSHOP 1
Engaging with Quantum content

16:00 to 17:00 on Wednesday 24 June

To join the online plenary meeting for this workshop : meet.jit.si/CASquantum

16:00 Introduction from Dr Richard Millwood and register below
16:15 Do this quiz - five questions drawn from Quantum, but presented in Google Forms
16:30 Discussion of question content and explanations made
16:50 Sum up
17:00 Close

Homework - register on diagnosticquestions.com and investigate the 'Insights' for each question in this quiz.

Register

Forename	Surname	Email	Role and Affiliation	What I'd like to get out of this session
Richard	Millwood	richardmillwood@mac.com	Visiting Research Fellow at Trinity College Dublin	Participants successfully engage with Quantum content and understand what it is.
John	Woolard			

WORKSHOP 2
Investigating the Quantum data

16:00 to 17:00 on Thursday 25 June

- To join the online plenary meeting for this workshop : meet.jit.si/CASquantum
- When working in pairs, simply add an identifier to the end of the URL - e.g. meet.jit.si/CASquantummPAIR1
- In **preparation for this session**, ensure you have Signed Up on Diagnostic Questions - diagnosticquestions.com - and familiarised yourself with its interface.
- If you join early do this quiz - five questions drawn from Quantum, but presented in Google Forms

Agenda

16:00 Introduction from Dr Richard Millwood and register below
16:15 Working in pairs, deep dive into a Quantum question in Diagnostic Questions - critique a question from this quiz
16:30 Discussion of question content and explanations made by author and students
16:50 Sum up
17:00 Close

Register

Forename	Surname	Email	Role and Affiliation	What I'd like to get out of this session
Richard	Millwood	richardmillwood@mac.com	Visiting Research Fellow at Trinity College Dublin	Participants understand the potential for investigating the Quantum data.
Ceredig	Cattanach-Chell	Ceredig.Cattanach-Chell@ocr.org.uk	OCR CS Subject Advisor	General interest
Julie	Price	edneurosci@gmail.com	Research Student (Psychology) University of Roehampton	I am familiar with Quantum - explored it just by myself - would appreciate expert mediation!

			CAS Master Teacher NCCE Computer Science Champion … inter alia	
John	Woollard	John.Woollard@computingatschool.org.uk	Teacher Trainer, Tutor, University of Southampton	Better understanding of the affordances of Eedi
Karen	Scott	karen@futurecoders.org.uk	Director/Founder, futureCodersSE CIC	Not yet sure, responded to an email from John Woollard. Member of CAS Assessment Working Group. Strong interest in assessment and teaching of computing across age groups.
Vinay	Thawait	vinay.thawait@ocr.org.uk	OCR Computer Science Subject Advisor	Get to know the next step with Quantum content as I have been involved from the beginning of this project when it was hosted on Diagnostic Questions to now on EDI platform.

WORKSHOP 3
Exploring Quantum futures

16:00 to 17:00 on Tuesday 30 June

To join the online plenary meeting for this workshop : meet.jit.si/CASquantum
When working in groups, simply add an identifier to the end of the URL - e.g. meet.jit.si/CASquantumGROUPA

This session is for us to share experience and consider the future for Quantum. I expect we can pass our thoughts to the CAS Assessment Group and to the Quantum Advisory Group for their consideration.

16:00 Introduction from Dr Richard Millwood and register below
16:15 Working in groups if needed, share experience of Quantum - use the Register, final column to jot down some notes on the following questions:

1) What has been your involvement / contribution?
2) What experiences / lessons learnt?
3) How would you like it to go forward?

16:25 Working in groups if needed, identify challenges and propose future potential action for Quantum
16:45 Report back and sum up
17:00 Close

Register

Forename	Surname	Email	Role and Affiliation	What I'd like to get out of this session	Involvement Experiences / lessons learnt Going forward
Richard	Millwood	richardmillwood@mac.com	Visiting Research Fellow at Trinity College Dublin	Participants have the opportunity to share their experience with Quantum and consider its future.	**Involvement** When working in Ireland, I wrote a European bid (REACT) in Nov 2016 which suggested many of the features of Quantum - it failed and I got on with life. Last September I joined Eedi / Diagnostic Questions to lead on Computing and support Quantum. **Experiences / lessons learnt** The quality of questions, explanations and taxonomy is variable. There is huge potential value in Assessment for Teaching (by teachers) and in Assessment for Learning (by students). **Going forward** The process for learning from data generated by student needs establishing and need not be that smart - for authors, teachers and student teachers. The authoring process needs to be more manageable and better designed.
Julie	Price	edneurosci@gmail.com	Research Student (Psychology) University of Roehampton	● To learn from unmediated expert perspective ● To identify how Quantum could be best used within curriculum design	**Involvement** Used Diagnostic Questions prior to learning of Quantum **Experiences / lessons learnt** Brilliant for 'Hinge Point Questions' to help determine 'personalised' next steps **Going forward** Devising own sets of questions to tailor for particular study units - whether during the unit and/or at the conclusion - potentially powerful tool!
John	Woollard	John.Woollar	Teacher	● Better insight and a	**Involvement**

		d@computingatschool.org.uk	trainer, researcher, teacher	view of the future	Initial engagement with the CAS Project to support Diagnostic Questions develop the system for computing - writing early questions. Conducting a review oof data arising from 300 students doing 5 test of 10 questions. **Experiences / lessons learnt** **Going forward**
Vinay	Thawait	vinay.thawait@ocr.org.uk	OCR Subject Advisor	Get to know how it will evolve for schools and colleges offering OCR GCSE and A Level Computer Science qualifications	**Involvement** I have been part of the Quantum project advisory group from its initiation to look at DQ and to get to know the product and its usability. **Experiences / lessons learnt** We provided more than 400 quizzes to DQ as OCR to include these within DQ quizzes. Review of DQ quizzes and data it provides for students. Have seen the quizzes, explanations and taxonomy used appropriate for students of GCSE and A Level Computer Science. **Going forward** Keep involved with its development
Simon	Peyton Jones	simonpj@microsoft.com	CS researcher	How to share the goodness of the Quantum corpus with a much larger cohort of teachers	**Involvement** **Experiences / lessons learnt** **Going forward**
Ceredig	Cattanach-Chell	ceredig.cattanach-chell@ocr.org.uk	CS Subject Advisor OCR	Putting this resource firmly at the forefront of teachers teaching pedagogy/armoury	**Going forward** Support to help build this into teacher's toolkit through collaboration and ideation.

CHAT from Workshop 3

Welcome!

15:24

Vinay

Vinay Here

mainly answered by primary school students.

I am looking at the user group

OK thanks.

It is OK to move on now. Thanks.

We cannot use these quizzes as a test for pre and post GCSE quals from OCR.

We have mentioned DQ/EEDI use of quizzes as part of the AfL but it cannot be joined with statement such as 'these tests/quizzes will improve students for OCR exams'.

Richard - where are these OCR quizzes stored.

Also, is there any progress with Rob's developed OCR lesson plans?

Please provide a response when possible?

16:39

https://app.eedi.com/131674/collections/QUANTUM_COMPUTING_GCSE_Y11

Don;t know about Rob's plans.

16:39

John

Having structured and rationalised set of resources will help teachers say, "yes, I'll use these".

Having some autonomy is a luxury that comes later after establishing a routine/pedagogy.

What I believe we need is a "Craig Barton" as one strategy.

The next is we need a promoted stream of resources coing out at a regular and reliable frequency.

16:42

Vinay

Thanks John.

16:42

John

The data Eedi/Quantum/DQ produces is brilliant for those on the outside. It is nothing for teachers unless it improves the resources and improves their access to the resources.

16:44

The data can inform their pedagogy, practice and subject knowledge.

16:49

John

Simon, really good message "this will make your life better"
Not all teachers "know" the value of diagnostic questions
That has to be part of the message.

There are interest groups, not least the OCR GCSE group - they are invaluable but many still don't use them.

Richard, the data only informs if it is interpreted.

Ceredig, Vinay, what do your teachers say about the OCR resources?

16:55

Vinay

They like it all and happy to use it with their students. Thanks.

My sound quality is not as good as the previous session.

Our resources can be customised for students by teachers.

I will have to leave now. Thanks for the discussion today. Have a good evening all.

Bye for now.

17:03

John

Simon, you too have gone underwater.
I need to disappear
Speak soon Richard and Julie.

Until tomorrow...

17:08

Simon

I have to go I'm afraid

17:11

JulieAlice

Gentlemen, thank you for drawing me in to your conversation. I must leave now, but I wonder whether there is value in combining Quantum and ERT - and Transition? Perhaps Quantum and related matters needs a shared vocabulary using the ABC model.

Again, thank you ... and Bye for now! Julie

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