Institute of Educational Technology

Online assessment:

What we need to consider and what options are available for online assessment to be successful: including where to start, when and how often to assess, some of the different ways to assess online, how to be sure the work is your students'.

Chris Edwards
Lecturer, Institute of Educational Technology
chris.Edwards@open.ac.uk

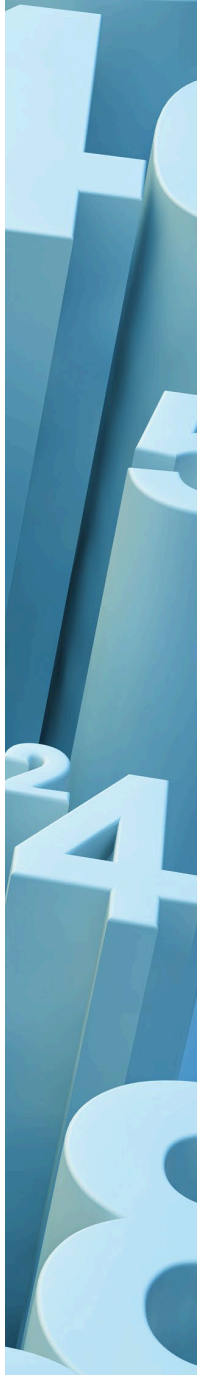
Consider:

- Why we assess
- What we assess
- How we assess
- When we assess

Why we assess

- **Formative**: to help reinforce learning
- **Summative**: to confirm development - usually towards a qualification
- Opportunity to give **feedback***:
  - to individuals
  - to group
- Ensure **engagement** with course
- **Review** progress of cohort - to help determine how to move on
- Give learners **confidence** they are progressing

*Denise Whiltelock focussed on feedback in earlier session



Poll 1

Which forms of assessment do you use?

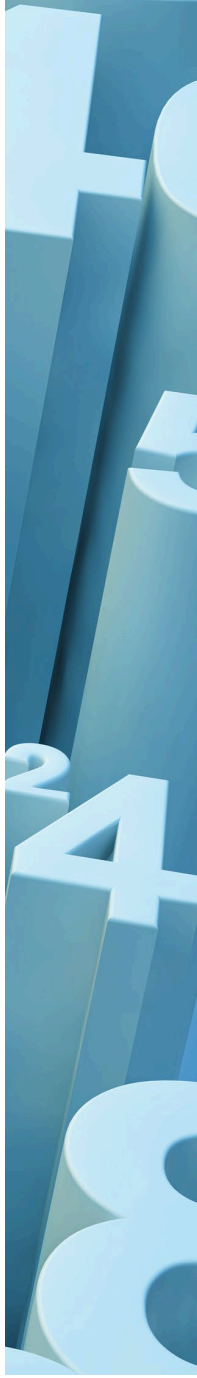
Select all that apply:

1. Formative: to help reinforce learning
2. Summative: to confirm development - usually towards a qualification
3. Opportunity to give feedback to individuals
4. Opportunity to give feedback to group
5. Ensure engagement with course
6. Review progress of cohort - to help determine how to move on
7. Give learners confidence they are progressing
8. Other

What we assess

- Against clear **learning outcomes** - shared with learners
- learning outcomes, teaching, and assessment in alignment: **'Constructive alignment'** (Biggs, 1996)
- be transparent with learners - **agency**
  - about learning outcomes
  - how los are assessed
  - how the assessments are marked

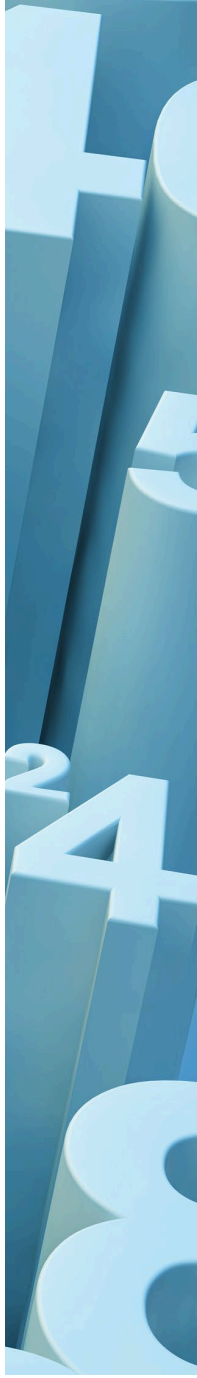
Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher Education*, *32*(3), 347–364. Retrieved from http://www.jstor.org/stable/3448076



How we assess - options

- low stakes – high stakes
- informal – formal
- formative – summative
- criterion referenced – norm referenced

- Use range of different kinds of assessment



When we assess

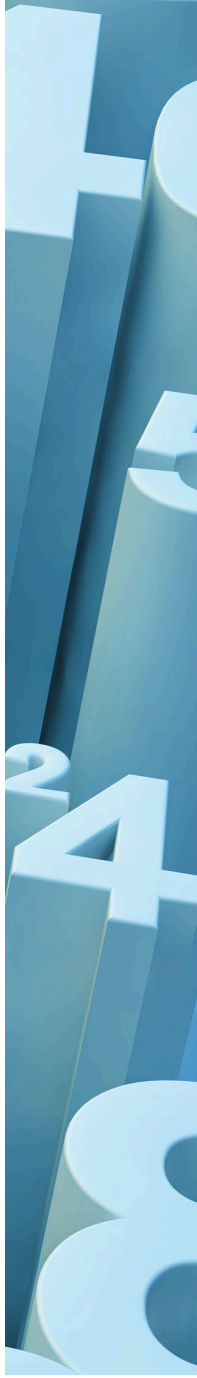
- **Before** we teach – to confirm readiness
- **during** a teaching session
- as **follow-up** to a teaching session
- at the end of a **topic**
- at the end of a **semester/term**
- at the end of the **course**

Taking assessment online:

- internet for submission of assessment
- internet for hosting assessment
- issues
- SMS

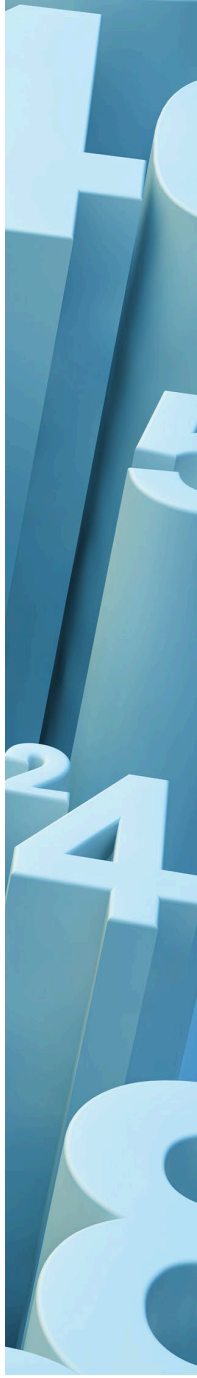
Submitting assessment online

- Student completes assessment:
  - digitises if necessary
  - transmits to teacher by email/portal
- As digital, can submit any form of assessment
- Teacher marks and returns feedback and results



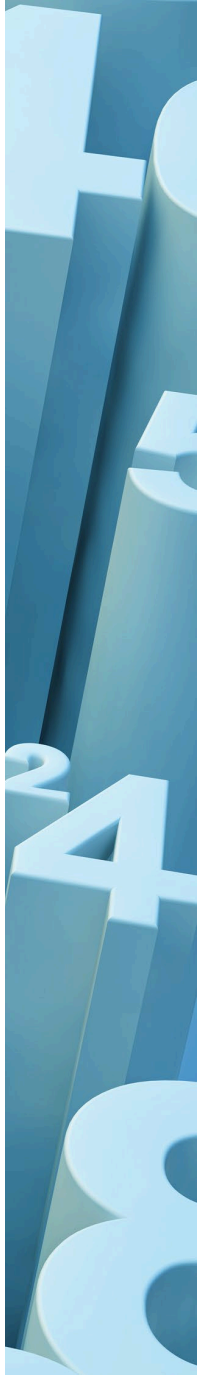
Embedding assessment online

- Requires online tools usually with student and teacher accounts
  - Possibly within a Virtual Learning Environment (VLE)
  - OpenLearn Create one possibility: https://bit.ly/OpenLearnCreate
- Student completes assessment and may receive feedback within environment
- Many forms of assessment available: individual and collaborative
  - formative with immediate automated feedback...
  - standard written essay questions...
  - recording: audio/video...
  - collaborative building of website or joint presentation – could be in Prezi



Issues

- Complicators:
  - how much will students work together/with others?
  - how to know the submitted work is the student's own?
- Solutions:
  - Vive voce - arrange to discuss submissions with a student at random*
  - know your students – dependent on student/teacher ratio
  - develop community with academic ideals
  - e-authentication, e.g. TeSLA
- Resilience
  - will the technology exist next time round?
  - will your assessment still work?
- Internet not always available
  - ability to work offline and synchronise when online



*McCabe, D. L., Trevino, L. K., & Butterfield, K. D. (2001). Cheating in Academic Institutions: A Decade of Research. *Ethics & Behavior*, *11*(3), 219–232. https://doi.org/10.1207/S15327019EB1103_2

Poll 2

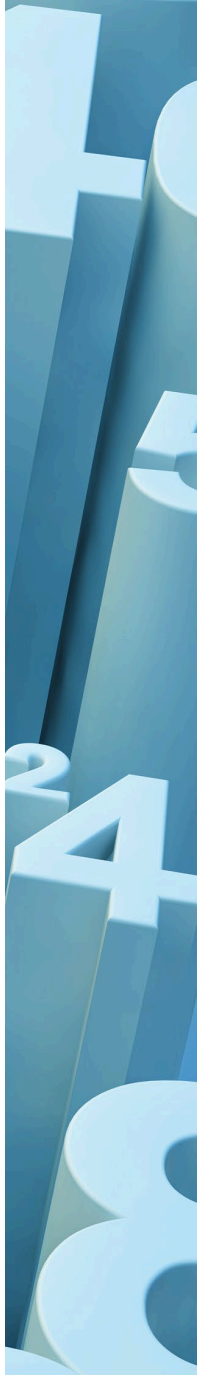
What student/teacher ratio do/will you have online:

Select all that apply – you may have different models

1. Less than 30:1
2. Between 30:1 and less than 50:1
3. Between 50:1 and less than 100:1
4. 100:1 or more

SMS

- Using mobile phone networks
  - Shupavu 291, Kenya
  - limited but ubiquitous



René F. Kizilcec and Maximillian Chen. 2020. Student Engagement in Mobile Learning via Text Message. In Proceedings of the Seventh ACM Conference on Learning @ Scale (L@S '20). Association for Computing Machinery, New York, NY, USA, 157–166. DOI:https://doi.org/10.1145/3386527.3405921

Breakout rooms

We breakout from main session to discuss:

1. What are the main barriers to assessing your students online ?
2. What would enable you to overcome these?

EMBEDDING E-AUTHENTICATION INTO ONLINE ASSESSMENT: THE TESLA PROJECT

Chris Edwards

chris.edwards@open.ac.uk

FUNDED BY THE EUROPEAN UNION

Project Number: 688520 – TESLA – H2020-ICT-2015/H2020-ICT-2015 Agreement Number: 688520

PILOT INSTITUTIONS

UOC
Universitat Oberta de Catalunya

The Open University

Open Universiteit
www.ou.nl

СВ. КЛИМЕНТ ОХРИДСКИ

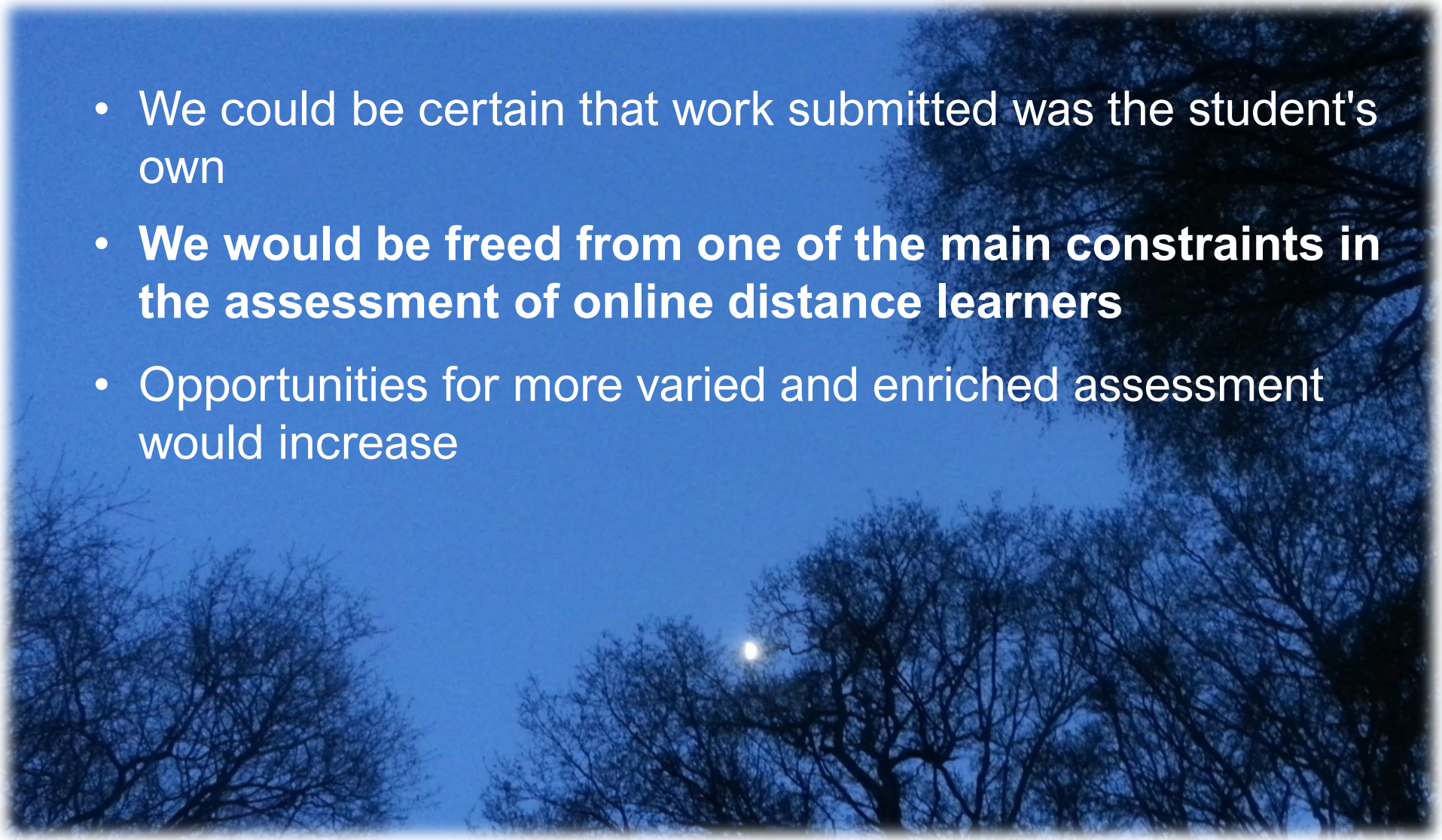
TECHNICAL UNIVERSITY SOFIA

UNIVERSITY OF JYVÄSKYLÄ

ANADOLU ÜNİVERSİTESİ

TeSLA
Adaptive trust-based e-assessment

IMAGINE…



- We could be certain that work submitted was the student's own
- **We would be freed from one of the main constraints in the assessment of online distance learners**
- Opportunities for more varied and enriched assessment would increase

TeSLA
Adaptive trust-based e-assessment

TeSLA is a step towards this goal

TeSLA system Incorporates several tools within a VLE…

Face recognition and anti-spoofing

Voice recognition and anti-spoofing

Plagiarism, and authorship validation.

Keystroke patterns

Face recognition

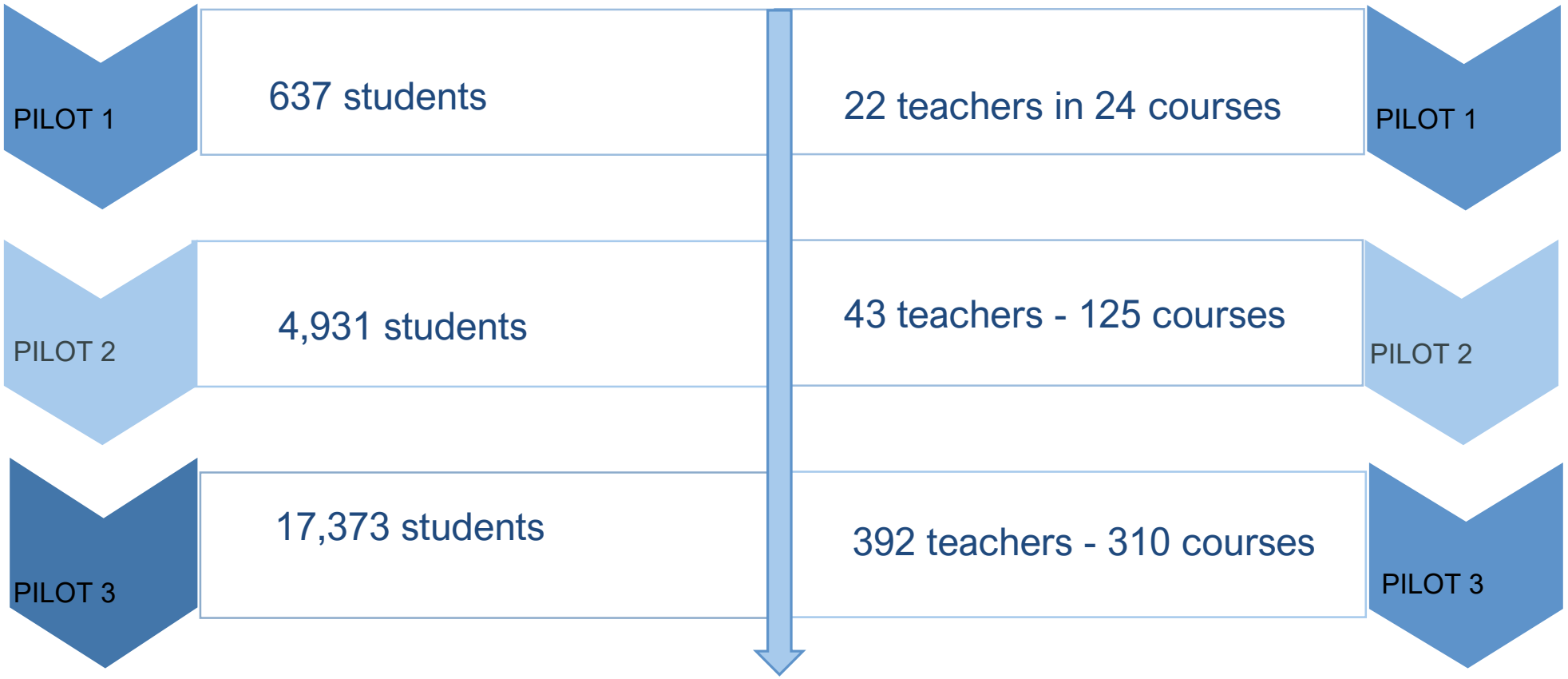
Voice recognition

Plagiarism detection

Forensic analysis

Keystroke dynamics

Pilots: numbers



TeSLA
Adaptive trust-based e-assessment

Outcomes: Students

positive experience for more than 50% of the students

>70% of participating students considered the key advantages of e-assessment with e-authentication to be: *“to ensure that my examination results are trusted”* and *“to prove that my essay is my own original work”*.

The most popular TeSLA instruments for students were *Forensic Analysis* and *Anti-Plagiarism:* these instruments were less intrusive. And less time was required for their use.

Many felt e-authentication would increase trust in e-assessment for students, institutions and employees.

The most popular reasons given included: e-authentication would make it more difficult for students to cheat.

TeSLA
Adaptive trust-based e-assessment

Outcomes: Staff

were satisfied or very satisfied with the TeSLA experience (particularly TUS 70% and SU 100%).

Most teaching staff agreed that the use of TeSLA *"will increase trust of e-assessment among universities and employers"* and *"it will help participants trust the outcomes of e-assessment"*.

further improvements (ease of implementation, interoperability, graphical user interface, browsers and OS compatibility) would be welcome.

e-authentication made new types of assessments possible for the first time.

Almost all the would recommend TeSLA to a colleague and would be willing to adopt it in their institution*

*(those who wouldn't were only concerned about the technical implementation of the prototype system in their institutions' existing systems.

Publications: to date, ORO

Bektik, Duygu; Cross, Simon; Holmes, Wayne; Aleksieva, Lyubka and Whitelock, Denise(2017). A European pilot study of a modular assessment system designed to authenticate the authorship of online learners. In: *CALRG Annual Conference 2017*, 14-16 Jun 2017, The Open University, Milton Keynes, UK.

Edwards, Chris; Holmes, Wayne; Whitelock, Denise and Okada, Ale (2018). Student Trust in e-Authentication. In: *L@S '18: Proceedings of the Fifth Annual ACM Conference on Learning at Scale*, ACM, New York, article no. 42.

Edwards, Chris; Whitelock, Denise; Brouns, Francis; Rodríguez, M. Elena; Okada, Alexandra; Baneres, David and Holmes, Wayne (2019). An embedded approach to plagiarism detection using the TeSLA e-authentication system. In: *TEA 2018 Technology Enhanced Assessment Conference*, 10-11 Dec 2018, Amsterdam, the Netherlands, (In Press).

Edwards, C.; Whitelock, D.; Okada, A. and Holmes, W. (2018). Trust in online authentication tools for online assessment in both formal and informal contexts. In: *ICERI2018 Proceedings* (Gómez Chova, L.; López Martínez, A. and Candel Torres, I. eds.), 12-14 Nov 2018, Seville, Spain, IATED Academy, pp. 3754–3762.

Okada, Alexandra; Whitelock, Denise and Holmes, Wayne (2017). Students' views on trust-based e-assessment system for online and blended environments. In: *The Online, Open and Flexible Higher Education Conference*, 25-27 Oct 2017, Open University, Milton Keynes.

Okada, Alexandra; Whitelock, Denise; Holmes, Wayne and Edwards, Chris (2017).Student acceptance of online assessment with e-authentication in the UK. In: *The 2017 International Technology Enhanced Assessment Conference (TEA 2017*, 5-6 Oct 2017, Barcelona, Spain.

Okada, Alexandra; Whitelock, Denise; Holmes, Wayne and Edwards, Chris (2019). e-Authentication for online assessment: A mixed-method study. *British Journal of Educational Technology*, 50(2) pp. 861–875.

Thank you

Chris Edwards
Lecturer, Institute of Educational Technology
chris.Edwards@open.ac.uk