

# Who has the crystal ball for moving forward with Digital Assessment?

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# Who is crystal ball gazing?

Students

Awarding Bodies

Teachers

Researchers

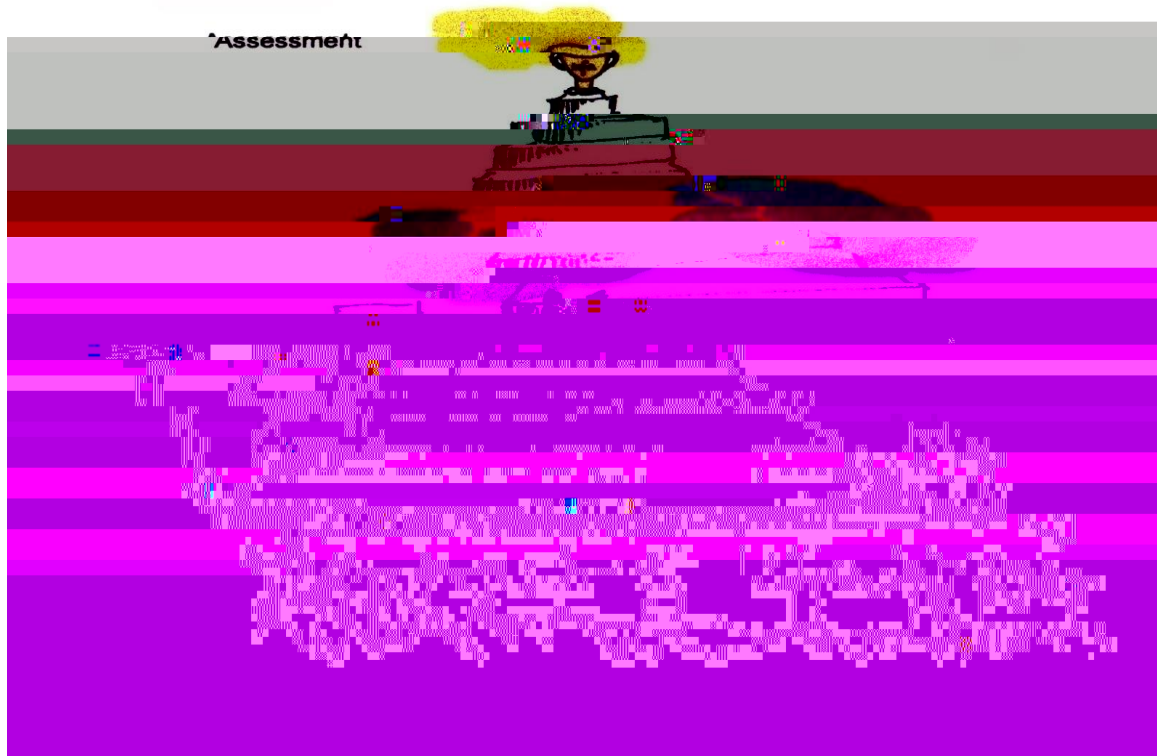
Software developers

Disrupters



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Denise Whitelock April 2018

## Awarding Bodies

### The e-Assessment and automatic feedback Challenge

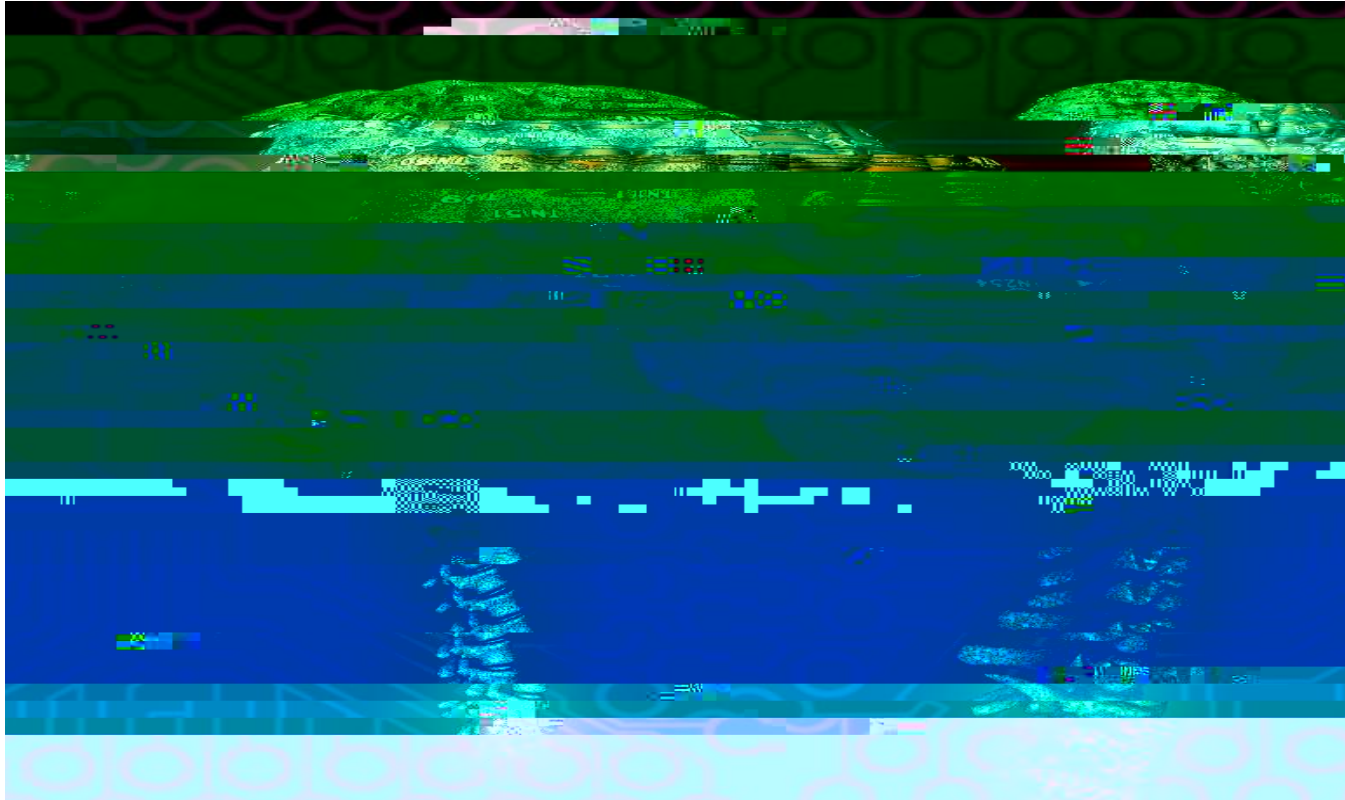
Constructivist  
Learning Push

Institutional  
reliability and  
accountability Pull



## Awarding Bodies

Grand Challenge representing analysis of learning that can be readily understood



## Teachers

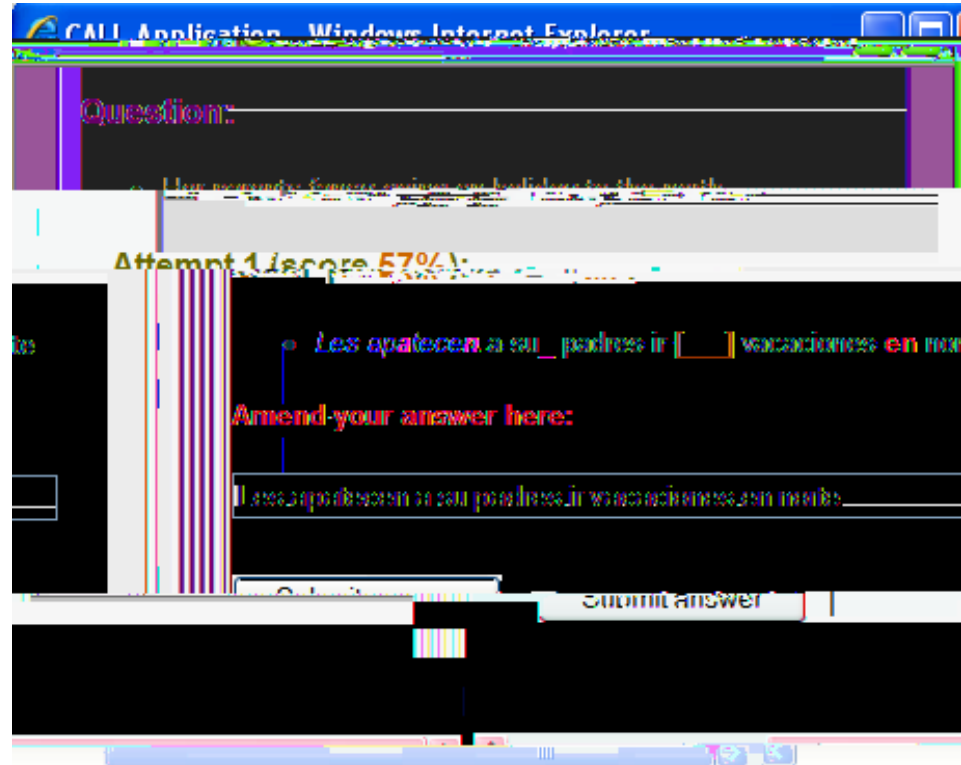
The LISC solution: developed by Ali Fowler

### A CALL system designed to enable students to:

Independently practise sentence translation

Receive immediate (and robust) feedback on all errors

Attend immediately to the feedback (before fossilisation can occur)



## How is the final mark arrived at in the LISC System?

The two submissions are *unequally* weighted

Best to give more weight to the first attempt

since this ensures that students give *careful* consideration to the construction of their first answer





## Evidence from literature re Praise feedback for Open Comment



# How does feedback effect mindsets?

1. Your intelligence is something very basic

change very much

2. You can learn new

really change how intelligent you are

3. No matter how much intelligence you have you can always change it quite a bit

4. You can always substantially change how intelligent you are

# Mindsets (Dweck, 2006)

## Fixed mindset

Super sensitive about being wrong

Always trying to prove themselves

## Growth mindset

Stretch themselves

Confront obstacles as





## Teachers

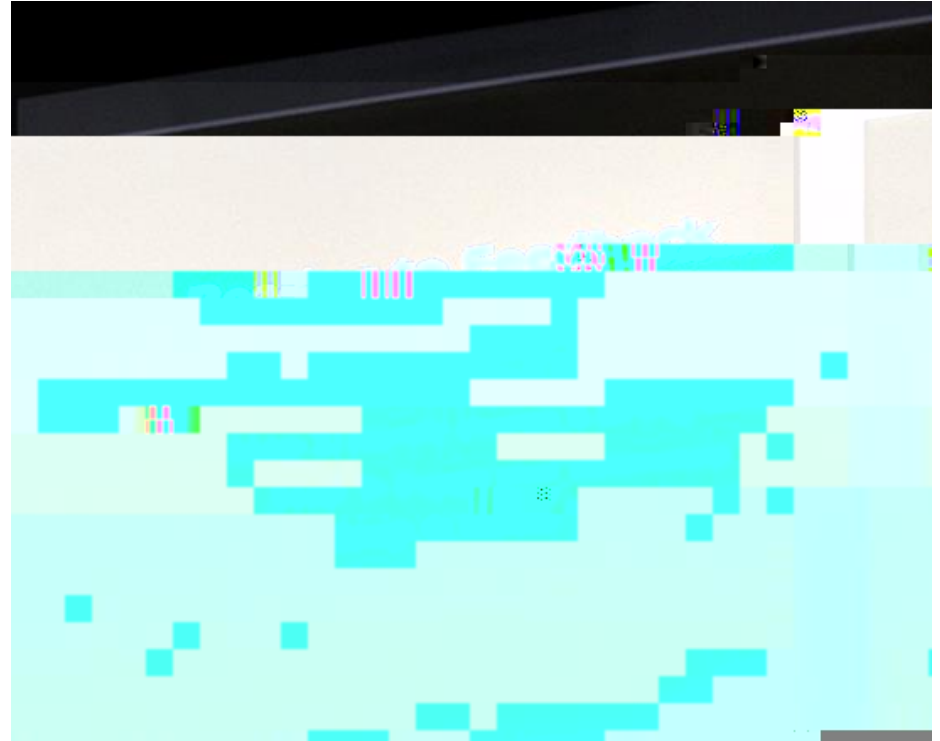
# Computer analysis continued

### STAGE 2a: REVEAL FIRST OMISSION

Consider the role of Z in your answer Praise what is correct and point out what is missing Good but now consider the role X plays in your answer

### STAGE 2b: REVEAL SECOND OMISSION

Consider the role of P in your answer Praise what is correct and point out what is missing Yes but also consider P. Would it have produced the same result if P is neglected?







Difficult at times to receive written feedback

Not just a cognitive response

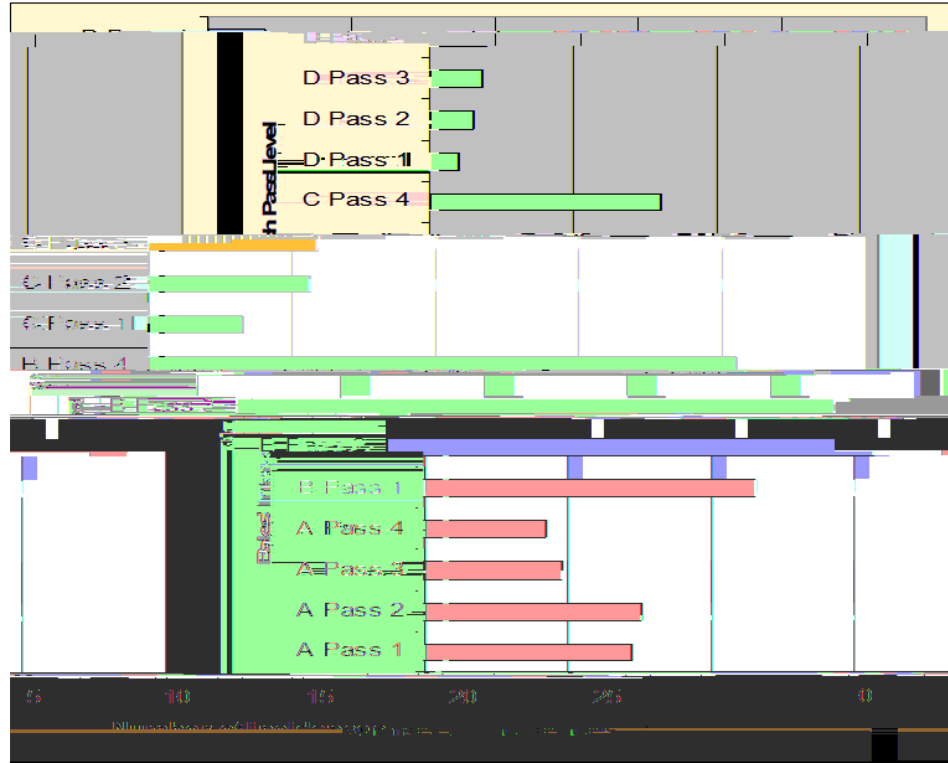
How can Bales help?

## Teachers

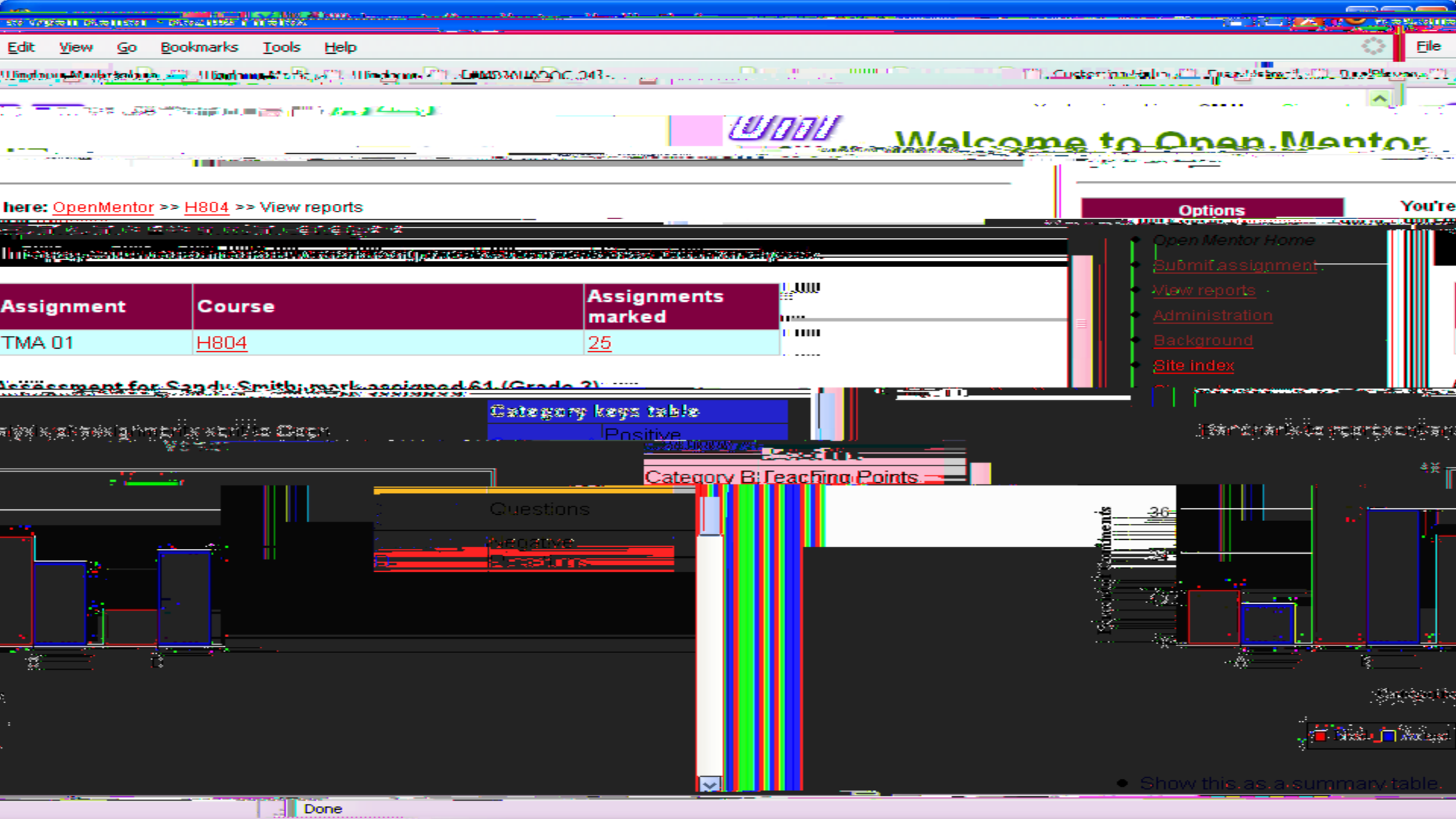
### Coding the tutor comments

Categories		Specific Examples
<b>Positive Reactions</b>		
A1	1. Shows solidarity	Jokes, gives help, rewards others
A2	2. Shows tension release	Laughs, shows satisfaction
A3	3. Shows agreement	Understands, concurs, complies, passively accepts
<b>Attempted Answers</b>		
B1	4. Gives suggestion	Directs, proposes, controls

## Identifying trends: H801







Welcome to OpenMentor

here: [OpenMentor](#) >> [H804](#) >> View reports

Options

You're

Assignment	Course	Assignments marked
TMA 01	<a href="#">H804</a>	<a href="#">25</a>

Assessment for Sandy Smith; mark assigned 61 (Grade 2)

Category keys table

Positive

Category B: Teaching Points

Questions

Negative

Positive

Assessments

36



**SAFeSEA**

No tutor support for drafts of first assignment

Reduce dropout rate with automatic feedback?

Effect of summarisation

What are the beneficial factors?

Correlate measures of learner



## **summaries of students' own work**

in different ways, to encourage them to reflect constructively on what they have written.

In other words Open Essayist tells them from its analysis what are the most important or key points in their essay. They can then think about whether that was what they **intended to emphasise** in their essay. If

the **structure** of the essay (which paragraphs constitute the introduction, the conclusion, the discussion sections, etc.),  
the **key words and key phrases** of their essay (which are the most important)

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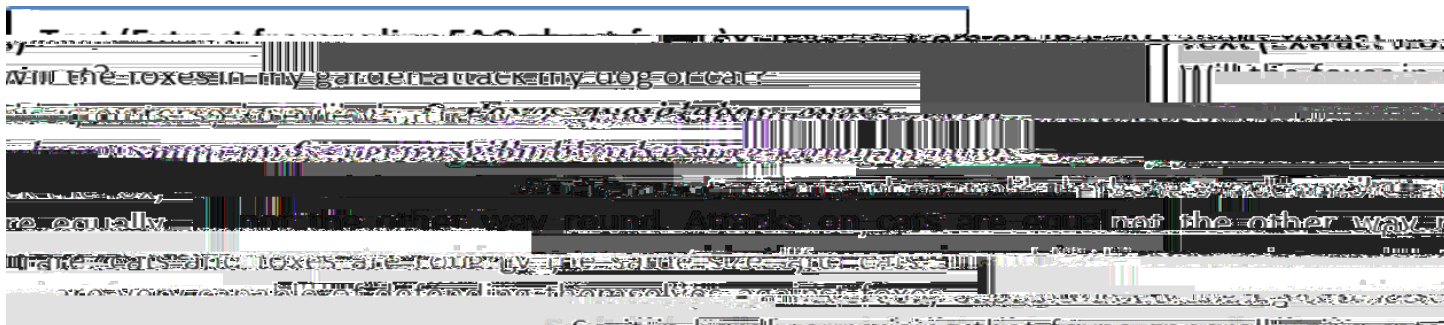
# Grades and use of OpenEssayist with H817

Used by MAODE students

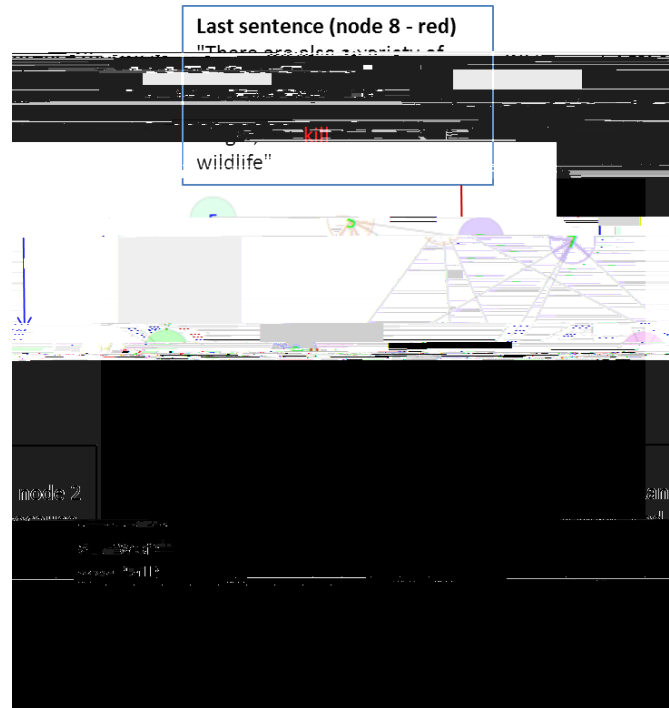
Positive correlations

1. Grades for Essay 1 and number of drafts ( $r=+0.41$ )
2. Number of site visits and number of drafts ( $r=+0.65$ )
3. Number of visits and grade for Essay 2 was significant one tailed test ( $r=+0.5$ )
4. Mean grade for overall module for students in cohort who used OpenEssayist (64.2) and students in previous cohort (53.7) ( $p=0.4$ )

# Short text for illustration of Rainbow Diagrams



## Sentence graph of short text

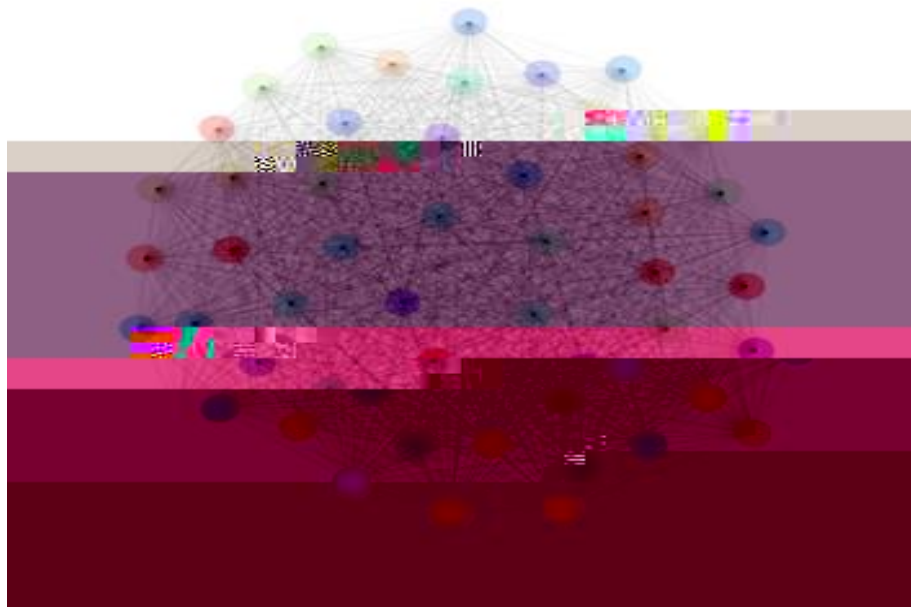


# Pretend essay: 10 identical paragraphs

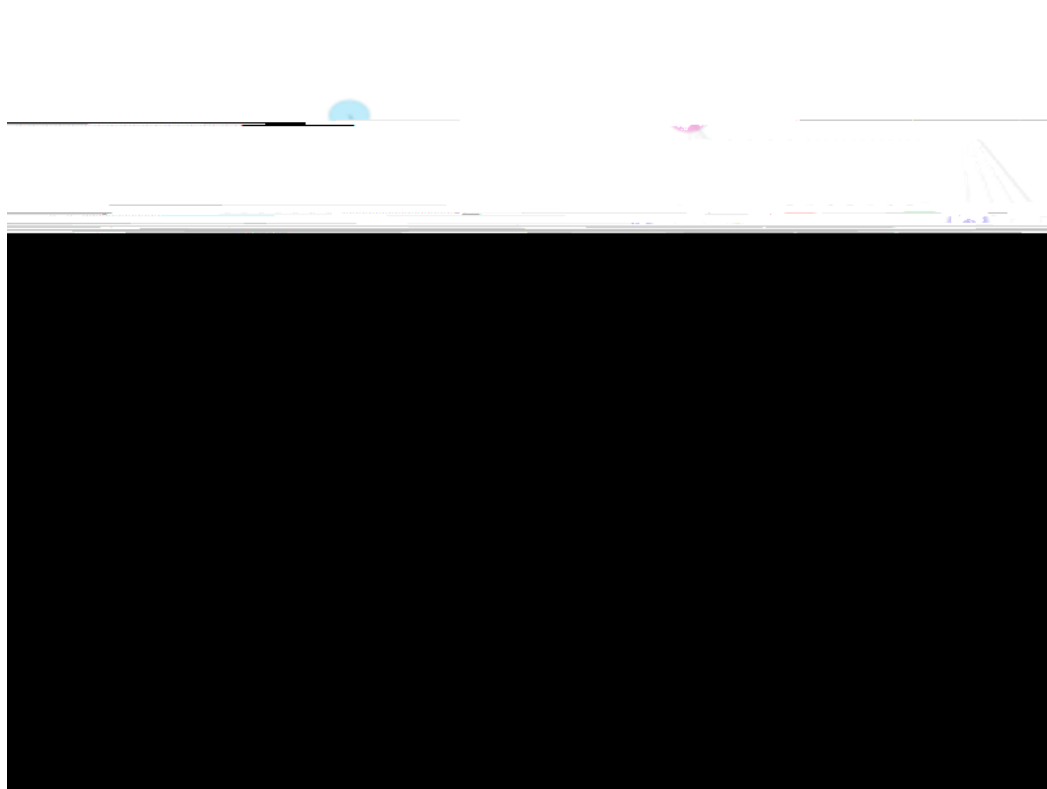




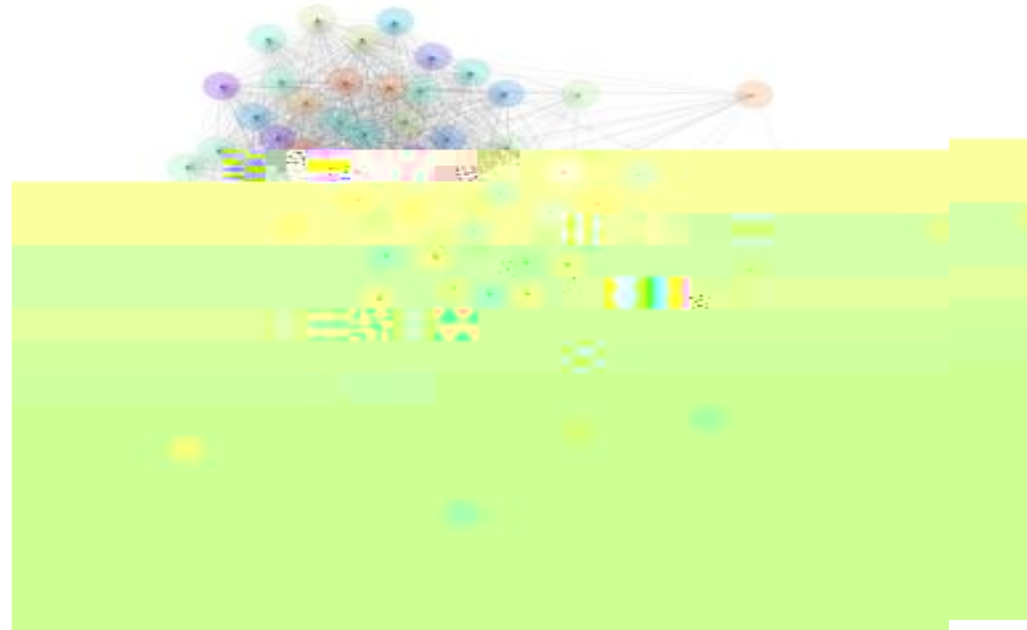
# Pretend essay: 50 identical sentences



# Stanford University Boothe Prize essay



# OU Essay awarded high grade



# OU essay awarded low grade



## Rainbow diagrams related to mark awarded

Multivariate analysis of variance on marks awarded to 45 students

Submitted two essays

Rainbow diagrams produced from these essays and rated as high, medium or low attainment

Covariate showed a significant relationship with the marks

$F(1, 43) = 5.92, p = .01$  using a directional test

Essays rated as high would be expected to receive 8.56 percentage points more than essays rated as medium

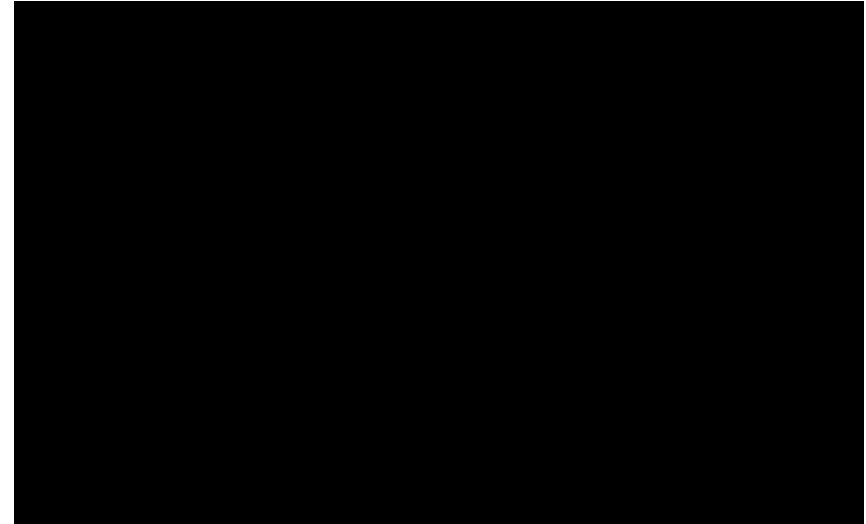
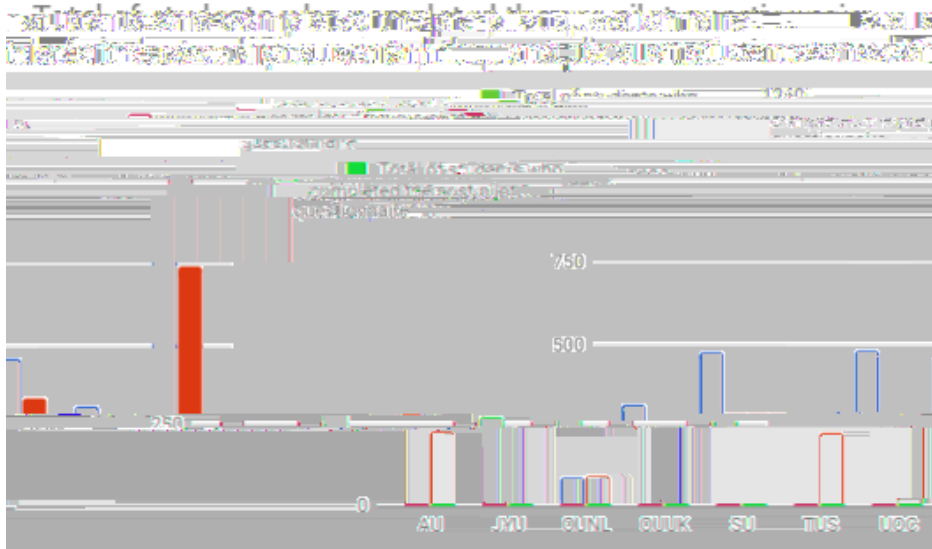
17.2 percentage points higher than essays rated from rainbow diagrams as low

## How about anywhere anytime testing? TeSLA: Adaptive Trust based e-Assessment

AIM: Secure & reliable online assessment

TECHNOLOGIES: Voice/face recognition, keystroke

# TeSLA PARTICIPANTS IN RECENT PILOT STUDY



There are three universities OUNL (75%) OUUK( 79%) and UOC (82%) whose students trust an on online system, more than those from other institutions.

There are also four universities, AU (24%), JYU (26%), SU (25%) and TUS (21%), where more students do not trust a fully online assessment.

Students from AU (76%) and TUS (78%) are less used to online assessment.

Students from TUS (22%) , SU (15.5%) and AU (7.8%) are less aware of academic malpractices than from OUUK (1.9%) , UOC (4.0%) and OUNL (1.1%).

Most of the students from the test universities identified some advantages to online assessment with authentication, such as; improves rigour and proves submission of original own work.

*"I find the controversy of e-*





# Drivers for disruption

Commercial  
companies

Private online  
learning institutions

Government  
policies for shorter,  
cheaper courses



## Disrupters

### Artificial Intelligence for business

#### Microsoft Azure

opening a  
dialogue for car sales

Carnival Maritime tracks  
and predicts water use to  
keep a cruise ship in  
working order



# AI for Education

Chatbox  
recommender  
systems

Assessment  
feedback from your  
own personal robot

