

Introducing Psychonovo

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What we do

- **Conversational textbooks:**
textbooks you can talk to.
- **Generative assessment:**
Create large numbers of high quality assessment items, deliver personalized assessments.
- **Accessibility**
Accessible for writers and readers.

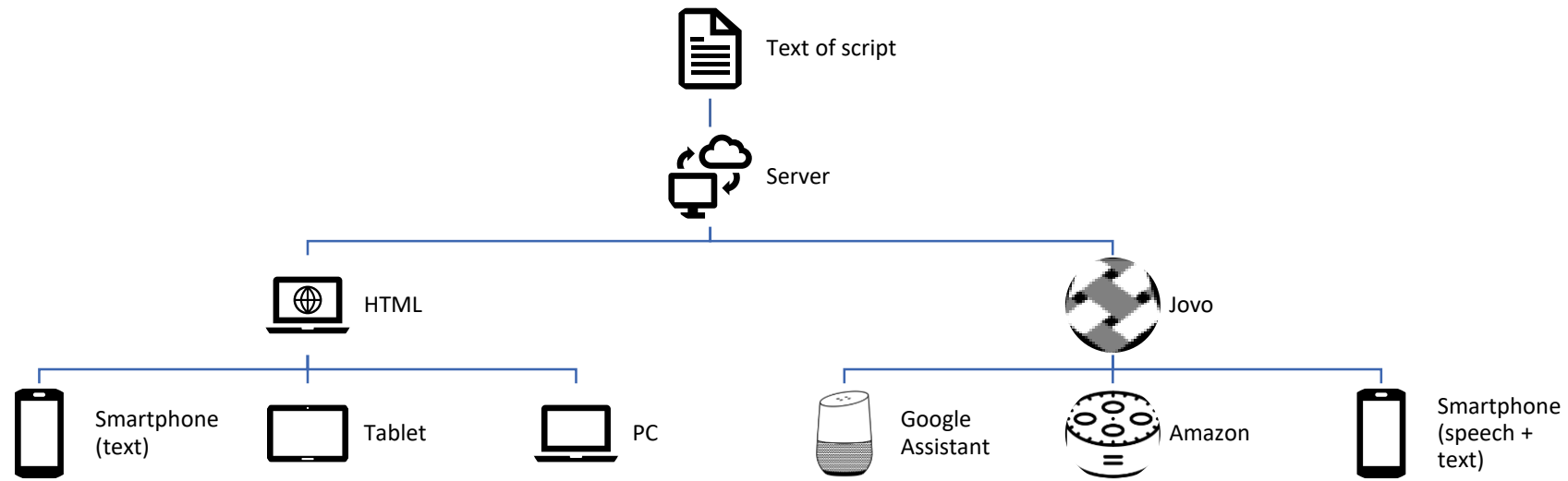


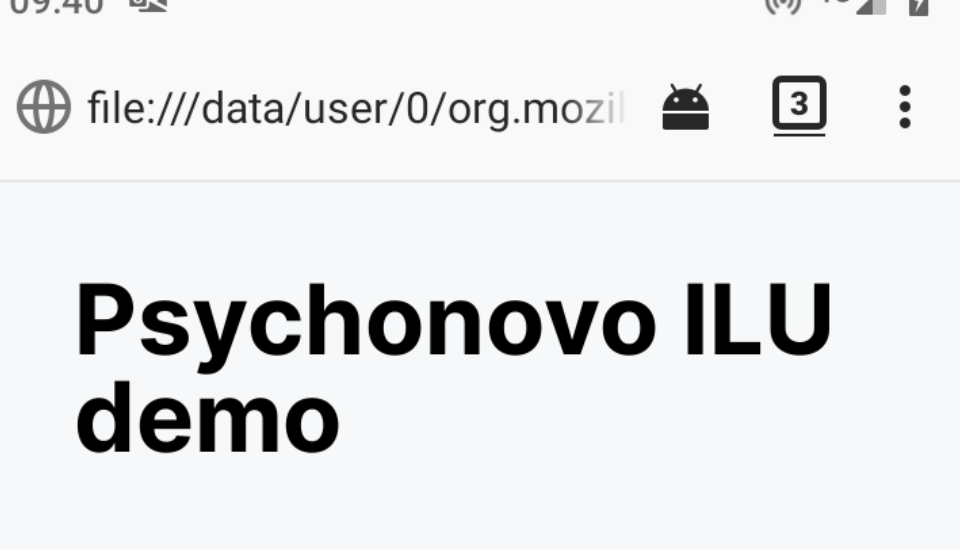
We are....

- **Cheap**
All content is freely available
- **Easy**
for students and academics
- **The answer to the question...**
What the hell are we going to do
in September?



Ubiquitous conversational publishing model





True or False: A logical fallacy is a logically correct argument.

[False](#)

[True](#)

Script (below) Standalone html version (left)

```
# ILU: Psychonovo ILU demo
```

```
## mcq
```

True or False: A logical fallacy is a logically correct argument.

```
### False
```

That's right, a logical fallacy is an error in our logical reasoning, which means that our conclusion is not valid.

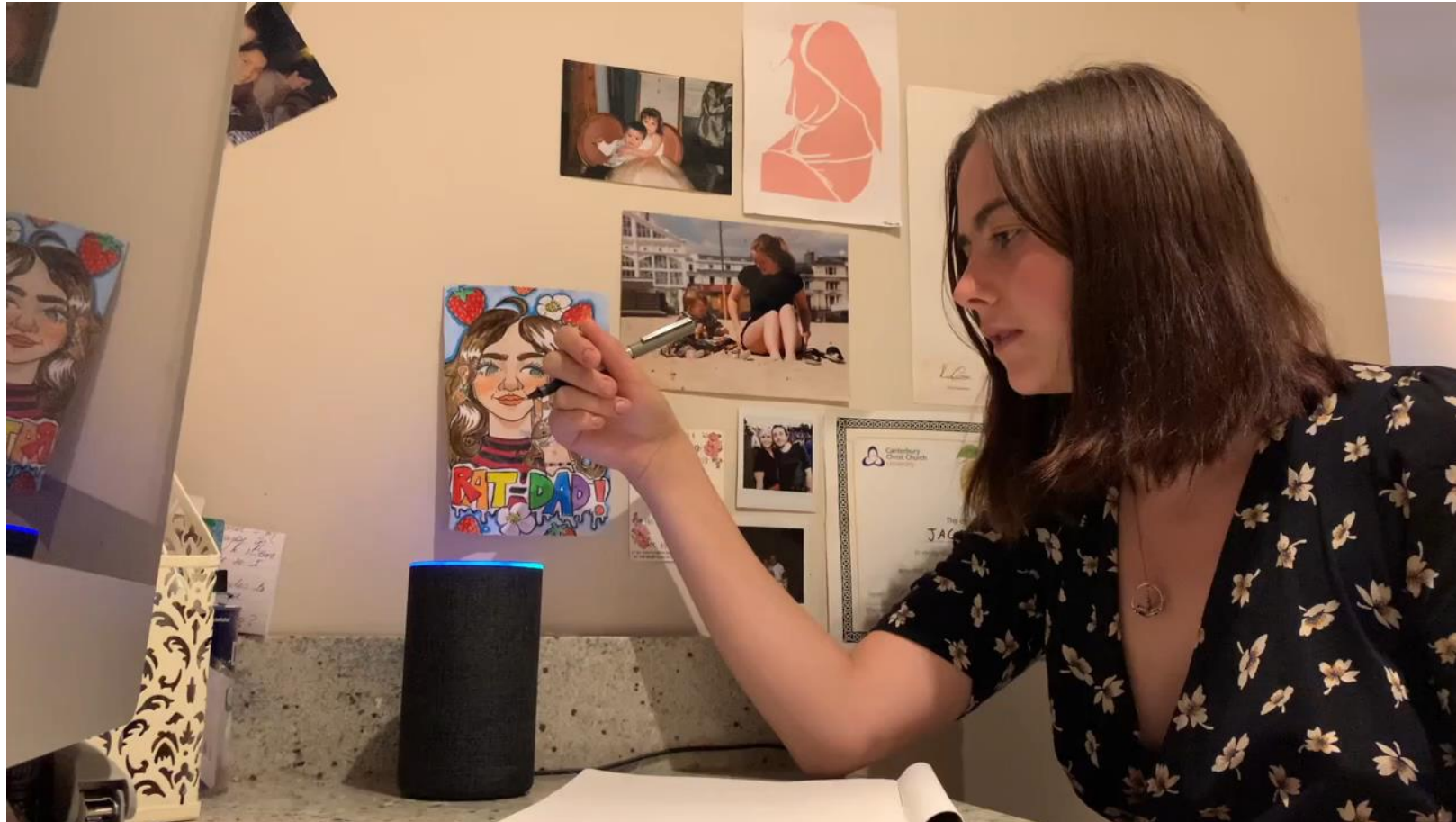
```
### True
```

No, a logical fallacy is an error in our logical reasoning, which means that our conclusion is not valid.

```
## tut
```

Ricco (2007) outlines a series of six logical fallacies that often occur in everyday

Alexa version (yt)



Okay, so we shouldn't rely on personal experience or anecdotal evidence for a variety of reasons. Consider the following situation:

A psychologist carries out a large scale survey on a random sample of the population, in which participants feelings of happiness and gratitude are measured using standardised questionnaires.

If they find a strong positive correlation between happiness and gratitude, then what can we conclude?



A

Happier people tend to feel more grateful

B

Being grateful makes you more likely to be happy.

C

Being happy makes you more likely to feel grateful



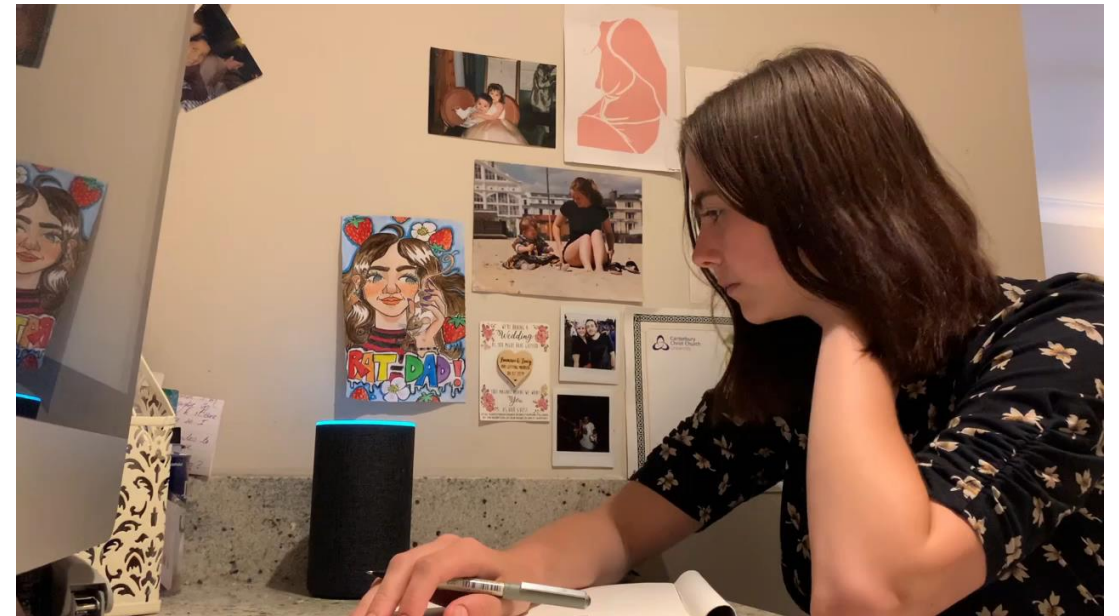
Who do you agree with?

Andrew

Messenger bot version – can be accessed via various real and simulated messaging systems

‘Tutorial’ style questions ([yt](#))

- Introducing Andrew, Brinda, and Colette
- Used to add variety and make choices distinct and easy to reference
- Provides virtual peer modelling – these students always provide an answer!





Ubiquitous learning

"Ubiquitous learning is based on ubiquitous technology and ubiquitous computing... It enables studying and learning anywhere and anytime"

Virtanen, Haavisto, Liikanen, and Kääriäinen
(2018)



Perspectives on Rethinking and Reforming Education

Shengquan Yu
Mohamed Ally
Avgoustos Tsinakos *Editors*

Mobile and Ubiquitous Learning

An International Handbook



 Springer

Competing for attention

With mobile learners being able to “squeeze in” learning in-between other daily activities, they face contesting demands on their attention and their brain

Palalas (2018)

eBook version

Our eBook version offers a whole course as a conversational textbook

- Long battery life
- Screen visible in bright sunlight
- No network required

Suited to hot countries with undeveloped infrastructure, and beaches.

No distractions



In the following research scenario, consider whether the result supports the hypothesis.

An experiment was conducted to test if a mindset intervention would reduce students' absence rates at college. Participants in the experiment took part in either the mindset intervention condition or the control condition. The mean scores were 2.7 days missed in the intervention condition and 3.2 in the control condition, the significance test gave a result of 0.02.

Does this result support the hypothesis?

Brian: *No, because the difference was in the wrong direction so it doesn't matter that it was significant.*

Raveena: *Yes, because the p value is below the 5% threshold and the difference is in the predicted direction.*

Nicole: *No, because there wasn't a significant difference between the two conditions.*

Who do you agree with: Brian, Raveena, or Nicole?

Time left in book: 1 min

29%

The approach

Technology

Conversational approach allows us to build mental structures through a conversation process that takes into account key principles in learning

- Testing effect
- Elaboration
- Ordering
- Spacing
- Interleaving
- Deliberate and varied practice
- Chunking and consolidation

Learning Theory

"Comprehenders build each structure by first laying a foundation. Comprehenders develop mental structures by mapping on new information when that information coheres or relates to previous information. However, when the incoming information is less related, comprehenders shift and attach a new substructure."

Gernsbacher (1997, abstract)

Making learning easier for everyone

- Easy for authors
 - Extremely simple script format
 - Can focus on writing
 - Traditional textbook authorship model
(Author retains IP, with Creative Commons style license)
- Easy for students
 - No registration
 - Works wherever they are
- Easy for quality assurance
 - All content has readable paper version

Generative Assessment

- Writing good items is expensive
- "A generative approach" is advocated by Bejar *et al* (2002)
- But restricted in application and high bar to entry for non-coders.
- We make item generation accessible and easy for authors.





Squash

- From Kahneman & Tversky (1982) who reported that most squash players got it wrong
- Mulhern and Wylie gave this question to first year Psychology Undergraduates.
- Diagnostic: do they understand sampling variability or do they believe in the 'law of small numbers'?

Table 16

A game of squash can be played either to 9 or 15 points. Holding all other rules of the game constant, if player A is better than player B, which scoring system will give player A a higher probability of winning?

Options	%
No difference	54
9 point game	19
15 point game	19
No answer	8

Making question generative

- Add variable details
- Require student to identify better or worse player from data
- Add several parts – 24 possible answers in this case ($p < 0.05$ that student has guessed right)
- Questions can be delivered in exam paper format or via interactive conversation.

Question 8

Peter and Lily have played squash 20 times before and Peter has won 12 times.

i) What is the percentage probability of Peter winning their next game based on past performance?

- (A) 60
- (B) 0
- (C) 40
- (D) 100

ii) A game of squash can be played either to 9 or 15 points. Holding other rules of the game constant, which scoring system will give Peter a higher chance of winning?

- (1) A game of 9 points.
- (2) A game of 15 points.
- (3) It doesn't make any difference.

iii) True or False: A longer game favours a stronger player.

- (T) True
- (F) False

Please enter your 3 character response in the form A1F

Two questions from the same recipe script

Question 8

1 pts

John and Ben have played squash 20 times before and John has won 8 times.

i) What is the percentage probability of John winning their next game based on past performance?

- (A) 100
- (B) 60
- (C) 0
- (D) 40

ii) A game of squash can be played either to 9 or 15 points. Holding all other rules of the game constant, which scoring system will give John a higher chance of winning?

- (1) It doesn't make any difference.
- (2) A game of 9 points
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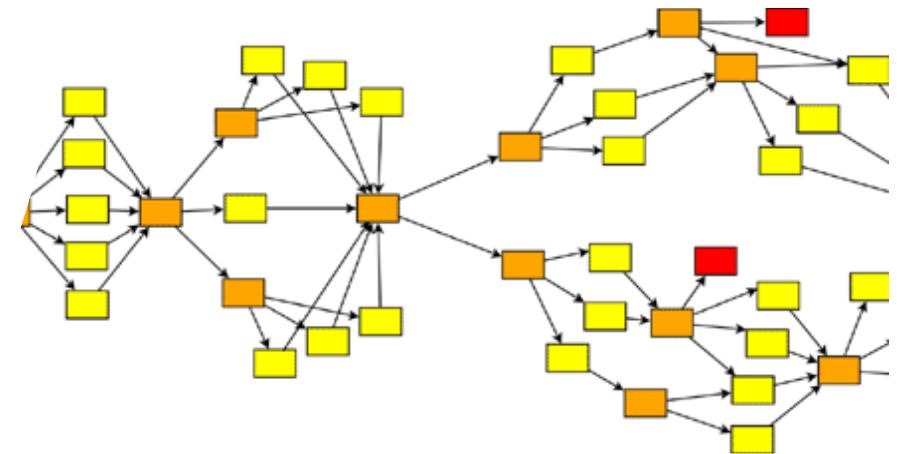
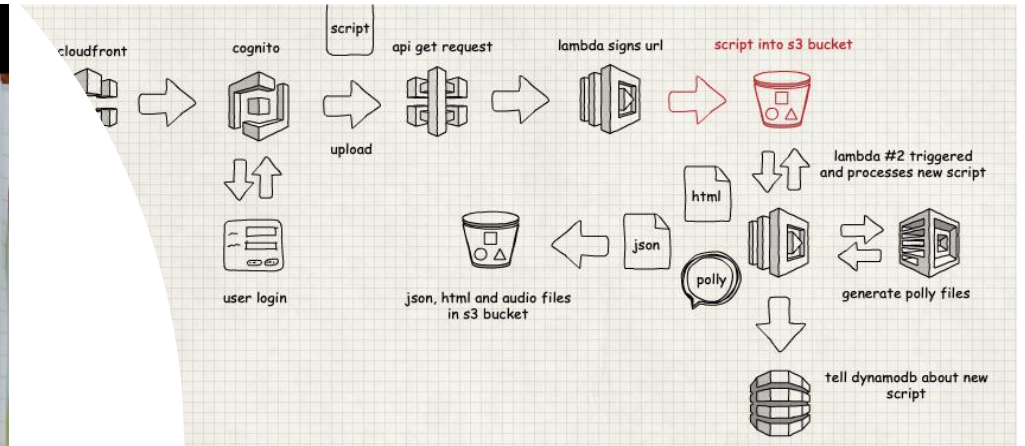
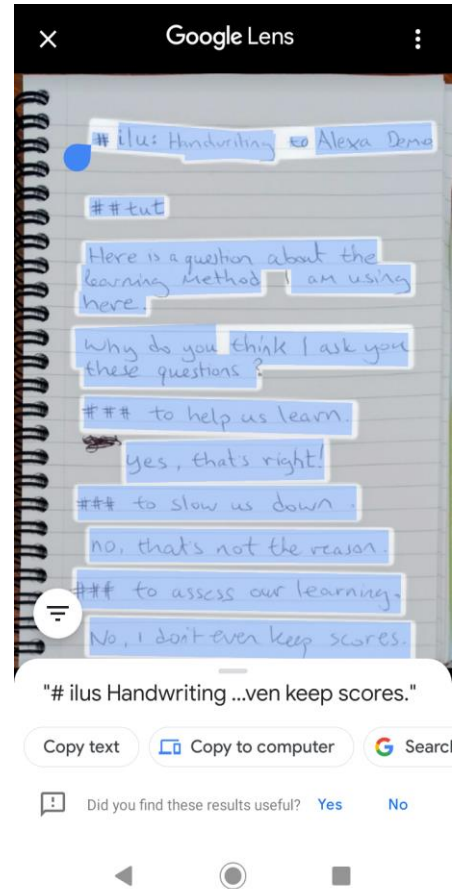
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- (F) False

Question recipes

- Simple human readable and writeable format
- One text file can generate thousands or millions of question variants
- Each of these questions can be delivered via any of our formats

From notepad to ubiquitous media, Psychonovo handles the technical stuff



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<https://psychonovo.com/demo>

Questions?

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