Just "correct" is a bit lacklustre feedback

The added value of Generative AI as a resource in mediating learners' in L2 Reading Dynamic Assessment

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We aim to advance the **theoretical, empirical and practical basis** of L2 assessment for learning by bringing together dynamic and diagnostic assessment approaches

Thus, we address

(1) **lack of systematicity** and **basis in theory** of learning / development in the assessment of L2 skills

(2) **lack of individualisation** due to large groups and limited teacher time

We focus on **reading** and writing in English as a foreign language in upper secondary schools in Finland (16-18 -year-olds)

Dynamic Assessment (DA): Diagnosis through intervention

DA based in Vygotsky's (2012) **Sociocultural psychology**: new cognitive abilities, including language, appear first on *inter-mental plane* (dialogic interaction) & later on *intra-mental plane* (internal, use of language as inner speech)

- Full diagnosis of abilities includes emergent abilities
- **Mediation** [intervening in cognitive processes] through interaction (hints, leading questions, feedback, model, example)
- Process may lead to 'ripening' of abilities, promotion of development (Vygotsky, 2011

Purpose: not for learners to 'do better' on test, but to diagnose development; quality of mediation learner requires + responsiveness to it

Possible for learners to succeed during assessment despite partly formed abilities; DA can help detect this (Poehner & van Compernolle, 2013)

Mediation specific details

1	Look at the key parts of the question and the options. Think about what the question is asking. Then try to find this information in the text, thinking about how you search for it.
2	Once you think you found the place with the details you need, **look around this part** and think about the **meanings of words and phrases** you see. Try to connect them to the question and the options. Remember that the details in the text are often said in a different way than in the question.
3	You can also look for: ● The order of details, paying attention to **verb tenses** and words like *first* and *then*. ● How these details are connected, like **comparing** using *likewise*, or **contrasting** using *but*. ● Sometimes you need to choose the details that best match the question and the option. ● You can also use your knowledge about the topic to find the answer.

Piloting stage 1: computerised mediation prior to AI functionality implementation

- Upper-secondary school students of English ($n = 2$)
  - Screen- and audio-recorded performance
  - Thinkaloud (students encouraged to verbalise their thinking processes)
  - Asking students about their immediate experiences with the mediation
- Master students in a language assessment course ($n = 29$)
  - Reflective reports of experiences
    - Instructions:
      1. What do you think about the tasks (texts + questions)?
      2. What do you think of the feedback and advice that the system sometimes offered?
      3. What do you think about how the system worked and what it looked like?
  - Content analysed

Stage 1: Piloting with upper-secondary school students

Kysymys: 1 / 10

Valitse mielestäsi luontevampi vastaus kuulemaasi kysymykseen.

Electric Car

Ford's New All-Electric F-150 Lightning Is More Than It Seems

Other automakers are also adding new and perhaps unexpected features to their EVs. Some Tesla vehicles have a "Bioweapon Defense Mode" (essentially an air filter), for instance, and GM's new electric Hummer has a "crab walk" feature allowing it to use four-wheel steering to move diagonally, like a chess bishop. Still, as cool as it may sound to turn all four of your electric truck's wheels slanty-ways to cram the vehicle into seemingly impossible parking spots. Ford's battery backup system

What does the future of the F-150 look like?

It will be more environmentally friendly than public transport

It will make way for other electric vehicle brands

It will start replacing similar vehicles by other brands

Laymen will be convinced of the need to go petrol-

Piloting with upper-secondary school students:

Tämä ei ollut paras valinta. Tarjoamme nyt apua ja vinkkejä…

Look at the key parts of the question (and the options). Think what the question requires, where in the text this information is found, and how you search for it.

to move diagonally, like a chess bishop. Still, as cool as it may sound to turn all four of your electric truck's wheels slanty-ways to cram the vehicle into seemingly impossible parking spots, Ford's battery backup system might prove more practical—and alluring—for the kinds of people who choose to buy pickup trucks because they value self-reliance and just-in-case features. No matter how many people are convinced to ditch their cars for public transport, we will still need some vehicles in 2050, and so a transition from gas-thirsty pickups to electric models is going to have to be part of the equation to get

It will be more environmentally friendly than public transport

It will make way for other electric vehicle brands

It will start replacing similar vehicles by other brands

Laymen will be convinced of the need to go petrol-free

People will also keep buying it as it goes electric

Piloting with upper-secondary school students:

S: I kind of feel that the answer is in that last [part] (circles with the mouse)

R: Why?

S: Because like in it is more, perhaps there is more in this about the future...

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Piloting of computerised mediation with MA students:
Issues with computerised mediation

S11: j**ust "correct" is a bit lacklustre feedback**. Especially since it was the main feedback I received while doing the tasks. Again, **you could offer question-specific feedback, such as "Correct! Because in the text ... is why ... is the correct answer.**". Now, for example, if the person doing the task guesses it remains a mystery to them why their guess was correct. If the program also offered feedback on the correct answers, the learners could receive confirmation that they have interpreted the question correctly, or an example of the thinking process when doing the task.

S17: Perhaps the f**eedback was too general, so it was difficult to use it for the text at hand**…
Perhaps it would have worked better if, after selecting "I did not find the right place in the text", the text had shown, for example, in some highlight colour, **the part where the answer to the question can be found**. There could also be a function when not recognizing the words by which unknown words can be marked and the **system provides a dictionary translation for these**.

Piloting stage 2: computerised mediation + chatbot functionality

- Upper-secondary school students of English ($n = 5$)
  - Performance logs (item-by-item performance including the mediation)
    - **Interactions with the chatbot**
  - Observation notes
  - Group interview with the students and the participating teacher

Chatbot piloting: S111

Choose the best fitting answer to the question.

Sports Books

Laughing in the Hills by Bill Barich (1980)

As mid-life crises go, Barich's, aged 35, is special. Five rejected novels, mother and mother-in-law dead of cancer five weeks apart, no money, no job, wife with suspected brain tumour. Craving structure, he found it only studying the Daily Racing Form, picking horses methodically and placing small bets. He then told his wife (tumour: false alarm), he'd be moving to a motel next to San Francisco's Golden Gate Fields racetrack, "convinced there was something special about racing and I wanted to get to the heart of the matter." There was. He did. His write-up of that time is spectacularly good.

What is special about Bill Barich's book?

- Barich based the book on news about races rather than on the actual races
- Barich captures something of the very essence of a particular sport
- Barich focuses more on his personal problems than on sports
- Barich provides advice based on his own experience with betting
- Barich ran away from challenges by focusing on writing about racing

Learner: Why is the answer " he ran away from challenges etc.. " wrong?

Chatbot: The answer "Barich ran away from challenges by focusing on writing about racing" is incorrect because the text does not suggest that Barich was running away from his challenges. Instead, it shows that during a difficult time in his life, he found structure and a special interest in racing. He moved to a motel next to a racetrack and studied racing methodically, which suggests a deep engagement with the sport rather than an escape from his personal problems. Therefore, the correct answer is "Barich captures something of the very essence of a particular sport" because he immersed himself in the world of racing and was able to write about it in a way that captured its essence.

Why is the answer " he ran away from challenges etc.. " wrong?

The answer "Barich ran away from challenges by focusing on writing about racing" is incorrect because the text does not suggest that Barich was running away from his challenges. Instead, it shows that during a difficult time in his life, he found structure and a special interest in racing. He moved to a motel next to a racetrack and studied racing methodically, which suggests a deep engagement with the sport rather than an escape from his personal problems. Therefore, the correct answer is "Barich captures something of the very essence of a particular sport" because he immersed himself in the world of racing and was able to write about it in a way that captured its essence.

Chatbot piloting: S111 (cont.)

Choose the best fitting answer to the question.

Volunteering in Hospitals

Royal Voluntary Service has been there for the National Health Service since the beginning – and we're looking for determined people to keep this tradition going. When you offer your sympathy, commitment and skills as a hospital volunteer, you're helping to improve a patient's experience, support their recovery and ensure that they can return home safely, reducing the chance of them returning as patients. You can also offer help to staff and visitors by volunteering in one of our Royal Voluntary Service Hospital Shops or Cafés. If you haven't tackled anything quite like this before, don't worry. We have an experienced team of people who specialise in voluntary work in hospitals and can help you make the most of your time with us. They'll be ready to guide you through the whole process with plenty of support, showing you how to volunteer at a hospital and answering all of your questions.

What is mentioned as an example of volunteer work?

- Creating a positive atmosphere in the hospital
- Helping hospital staff in daily caring routines
- Providing patients with basic medical help
- Selling refreshments at the hospital canteen
- Visiting patients at home after the hospital stay

Learner: Isn't this answer wrong because the text doesn't specify what kind of work is done for the shops or cafes?

Chatbot: The text mentions that volunteers can "offer help to staff and visitors by volunteering in one of our Royal Voluntary Service Hospital Shops or Cafés." While it doesn't explicitly state what kind of work is done in the shops or cafes, it's reasonable to infer that selling refreshments could be one of the tasks, as this is a common activity in such settings. Therefore, the answer "Selling refreshments at the hospital canteen" is not wrong. It's important to remember that in reading comprehension exercises, sometimes you need to make reasonable inferences based on the information provided.

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S111: Well, one thing at least for me, I'm still thinking, that it was a little bit weird, that the text said, that you can work in a café or a shop, and then the right answer was, that you can sell some refreshments, and it, it was somehow explained, that you should assume, that you would do that kind of things, yeah, but then there would have been another option, where, like, a bit indirectly was said, that you can, like, foster the atmosphere, so that option was not correct.

Chatbot piloting: S114

Choose the best fitting answer to the question.

Breakfast

"We know from population studies that eating breakfast is related to lower weight and healthier diet, along with lower risk of cardiovascular disease," St-Onge said. "However, interventions to increase breakfast consumption in those who typically skip breakfast do not support a strong causal role of this meal for weight management, in particular," St-Onge cautioned. "Adding breakfast, for some, leads to an additional meal and weight gain." It's possible that some people who add breakfast aren't eating the right things or cutting back on what they eat later in the day, resulting in more calories but not necessarily good nutrition. A healthy diet is heavy on fruits and vegetables, whole grains, low-fat dairy, poultry and fish. Eating well also means limiting red meat, salt and foods high in added sugars.

What is said about adding breakfast to meals?

It has no noticeable effect

It helps people lose weigh

It increases happiness

It is always a good thing

It may sometimes be harmf

Learner: Why eating breakfast can be harmful
Chatbot: Adding breakfast can lead to extra meals and weight gain, especially if a person doesn't eat the right things or reduce what they eat later in the day. This can lead to a higher calorie intake, but not necessarily to good nutrition.

Why eating breakfast can be harmful

Adding breakfast can lead to extra meals and weight gain, especially if a person doesn't eat the right things or reduce what they eat later in the day. This can lead to a higher calorie intake, but not necessarily to good nutrition.

Chatbot piloting: S114 (cont.)

Choose the best fitting answer to the question.

ArriveCAN

You must use ArriveCAN to provide mandatory travel information before and after your entry into Canada. It only takes minutes to help keep each other safe. Available for iOS, Android and web. The mobile app is free and is available in English, French and Spanish (displayed in the language of your device). Download the latest version of ArriveCAN or click 'update' in your app store. Travellers using ArriveCAN must identify: how they are entering Canada (for example, by air, land or sea) and where they are entering Canada (port of entry) If your precise travel details do not appear in the app, select any available option.

What information does ArriveCAN ask fo[r]

- The choice of language
- The details of identificatio[n]
- The length of the stay
- The means of travelling
- The purpose of the visit

Learner: can you confirm in the text where the answer is

Chatbot: Yes, I can confirm. The text says: "Passengers using ArriveCAN must identify: how they arrive in Canada (e.g. by air, land or sea)". This is the paragraph that answers the exercise question "What information does ArriveCAN ask for?" and the correct answer is "How you travel".

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Yes, I can confirm. The text says: "Passengers using ArriveCAN must identify: how they arrive in Canada (e.g. by air, land or sea)". This is the paragraph that answers the exercise question "What information does ArriveCAN ask for?" and the correct answer is "How you travel".

Discussion and current developments

- Chatbot availability allowed for
  - addressing challenges encountered during piloting (one solution to a host of problems) while…
  - keeping mediation focused on learner dev. rather than task completion

  -> Recall: in DA, mediation is for **diagnosing development**, but same principles for **promoting development**; Chatbot supports learner understanding of relation between assessment questions & text, need for reasoning, inferences, etc. during comprehension activity

- Now: collected data from **292 students** including their unassisted and mediated performance and chatbot interactions
- Next: thinking together with teachers about how the information about learners' mediated performance can be used in the classroom (first meetings with teachers started)

Kiitos!
Thank you!

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