



שימוש בצ'אטבוטים מבוססי בינה מלאכותית לשיפור תקשורת מקצועית באנגלית: ניתוח סוגי Field Shifts באינטראקציות של סטודנטים להנדסה עם צ'אטבוט



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CEFR action-oriented approach scenario-based teaching/learning

You are a...

Your overall goal(s) is to...

You will accomplish the goal by producing/interacting with...

To do this successfully, you will read/view/research...

[Sample material - Advanced 2](#)

So what's going on during these chatbot sessions?

Using systemic functional linguistics (SFL) to analyse interaction

SFL is the study of the **relationship between language and its functions in social settings** through three dimensions.

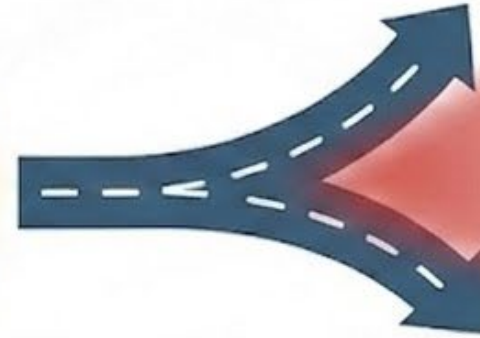
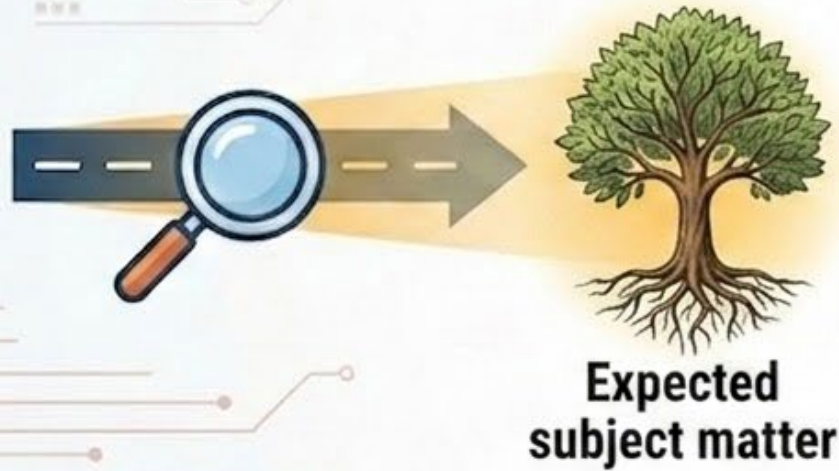
Field: What are we communicating about? How does it develop?

Tenor: What's the relationship between the 'speakers'?

Mode: What is the mode of communication?

Field shift

When discourse **moves away** from the expected subject matter or context...



dilution



less effective
engagement

... it can **dilute the focus** of the communication, leading to **less effective engagement** with the intended subject matter.

Our corpus

Conversations	Student turns
35	503

How did we analyse our data?

1. **Exploration:** fed the following into ChatGPT
 - scenario and base text the students were asked to draw on in their conversations
 - definition of field shift based on SFL
 - transcripts of the chatbot interactions
2. **Analysis:** manually analysed each turn to consolidate field shift categories.
3. **Validation:** fed in analysed conversations into Notebook LM to identify our possible coding inconsistencies
4. **Clean up:** Manually analysed inconsistencies identified by Notebook LM.

10 Field shift types

Field Shift	#	%	Definition	Possible Effects on Discourse
Clear shot	210	41.75%	The question or prompt is fully addressed. Opening/closing sequence is appropriate.	Moves the discourse forward.
Partial shot	124	24.65%	The question or prompt is only partially addressed, leaving out key details.	May lead to incomplete understanding, leaving the listener unclear about important aspects of the topic.
Flub shot	56	11.13%	An inaccurate or misaligned response that includes incorrect or irrelevant details.	Weakens credibility and may confuse the listener by introducing irrelevant or incorrect information.
Zooming out	39	7.75%	When prompted for specific information, general information is given instead.	Weakens the precision and impact of the response, making the argument less persuasive and harder to grasp.
Closed shutter	22	4.37%	The student does not respond at all to the question, failing to engage or provide any relevant content.	Creates a gap in the conversation, forcing the interlocutor to repeat or reframe the question, making the student appear unprepared or disengaged. Closes down the discourse.
Blurred shot	17	3.38%	A fragmented response without clear structure or sufficient linguistic repertoire, leading to issues in coherence or comprehensibility.	Lacks coherency, leaving the interlocutor unclear about the main point.
Lens adjustment	12	2.39%	Requesting clarification or reformulation of the question due to lack of understanding.	Interrupts the flow of the conversation and shifts the burden to the interlocutor to clarify.
Mirror shot	9	1.79%	The response mirrors or restates part of the question without fully addressing it.	Reduces the effectiveness of the response by failing to add substantive information, possibly frustrating the listener.
Shutter happy	9	1.79%	The response provides excessive, unfocused information without discerning what is most relevant to the question.	Overwhelms the listener with details, making it difficult to extract key points and reducing the effectiveness of the communication.
Zooming in	3	0.60%	The response becomes overly specific without providing sufficient context or orienting the listener.	Reduces clarity by not connecting specific details to the broader context, potentially confusing the listener.
Panning	2	0.40%	The response follows the interlocutor into unconnected areas without steering back to the focus of the conversation.	Diverts the conversation away from the topic, weakening focus on the objectives of the conversation.

Three examples of field shift

Partial shot

Expectation

Full description or explanation



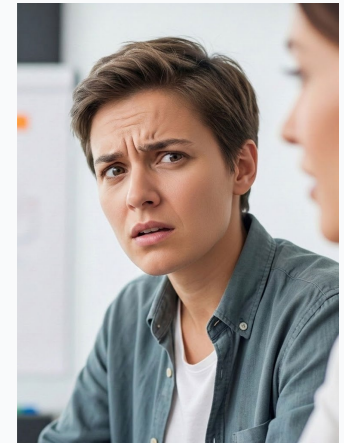
Shift

Partial information



Impact

Incomplete understanding



Partial shot: example

I2

Traffic congestion in urban areas is worsening as populations increase, so I'm interested to learn how a solar-powered ATN could help address this issue. What evidence shows this is a real problem? And what are the current solutions being used that aren't fully addressing the traffic problem?

S2

The first and most important problem is safety. Pedestrians and cyclists are getting hit. Moreover, there are a lot of car crashes every year due to the rising population and the growing amount of cars (AD23).

Partial shot: why?

Students may not recognize the number of **subtopic(s)** of the questions, or lack the **content** to give full, coherent answers.

Flub shot

Expectation

Specific explanation, details, evidence



Shift

Incorrect/irrelevant information



Impact

Weakens credibility, confuses the interlocutor



Flub shot: example

I4

...What are **some of the limitations** of existing solutions that have not adequately solved this problem? And how does your proposed solar-powered ATN **plan to better address safety** in a way previous methods have failed to do?

S4

The solution is a solar powered ATM viecles. The car's computer don't get tired or distracted so he won't likely make an accidents, at least less accidents (AD 23).

Flub shot: why?

Students may **misconceive** the **topic** of the question or **not know** the **content** of proposal itself.

Zooming out

Expectation

Specific data, evidence



Shift

General details



Impact

Weakens precision of the argument, argument less persuasive



Zooming out: example

I2

...I understand you have a proposal for a solar-powered... ATN. Could you please describe the problem your proposal is trying to solve? What evidence tells you this is a real issue needing to be addressed?

S2

The problem of the high amount of the vehicles cause to many problem, the most important of this is the air pollution that cause from vehicle emissions, in addition the higher numbers of road accident, one of the city that faces this problem is Beijing (AD 7).

Zooming out: why?

Students may know the “general story” but **lack the details/linguistic resources** or general **awareness** of the importance of communicating specific data.

Cluster profiles

Cluster	Field shifts	#*	%
Low battery	Partial shot + Closed shutter	18	50.0%
Wide angle wander	Zooming out + Partial shot	15	41.7%
Overload & quit	Shutter happy + Closed shutter	7	19.4%

*Some students exhibited more than one cluster profile.

Where are we going from here?

Analyse the interpersonal (Tenor) and textual (Mode) metafunctions

Consider pedagogical interventions

Thank you!

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