

Professor Lili Qin - From Vygotsky to AI: Transforming Second Language Acquisition Today

Welcome to this episode of Exploring the Humanities, Voices from the Hong Kong Polytechnic University. Our podcasts allow us to showcase the exciting and innovative work being done by our colleagues in the humanities. Intersecting with fields as varied as aviation, mental and physical health, virtual reality, religion, GenAI, design, neuroscience...

I am Renia Lopez from the Faculty of Humanities and with us today we are delighted to have Professor Lili Qin, who is a Yunshan Distinguished Scholar and Director of the Center for Sociocultural Theory and Foreign Language Education at the Guangdong University of Foreign Studies. So, Professor Qin, thank you so much for being with us today. Welcome!

- Thank you for your invitation. The honor is always mine. Thank you so much for your kindness in having me here.

Tell us a little bit about what it is that you focus on, because your field is second language acquisition. So, tell us a little bit more about the language you teach and your students.

- I teach English as a foreign language at Guangdong University of Foreign Studies. My students are mainly undergraduate teachers or students who are studying how to teach English to high schoolers or middle schoolers. I am also supervising some master's students and doctor students in a center of linguistics.

As part of your work, I understand that you are also the social secretary of the China Association of Second Language Acquisition.

- Yes.

What is the role of the association?

- The association in China - the full name is China Association of Second Language Acquisition - is very influential in Mainland China, and I think, maybe around the world. There are many scholars like Professor James Lantolf, Professor Hossein Nassaji, as far as I know, (there are so many!) who have been invited to the annual conferences we have organized over the past more than 10 years. The history of the association is almost two decades. These scholars are very influential figures in foreign language education and linguistic studies, especially in applied linguistics. As you might

have heard, Professor Xu Jinfen is the chair. For this year we are going to have a conference for larger participants, like 400 or 600 participants or attendees.

Your approach to foreign language teaching is from the Vygotskian perspective of sociocultural theory. So tell us who was Vygotsky and what is this sociocultural theory about? And as you're telling us, tell us also how does Professor James Lantolf fit into this?

- Let me first talk about Vygotsky and then somebody who is still alive, Professor James Lantolf. Vygotsky was a Russian psychologist who argued that human cognition is first social and then individual. He proposed two planes for psychological development. It starts with social interaction and then, after this, you come to the internalization of what you have learned on the social plane. So learning is mediated by cultural tools. Within these cultural tools, language is one of the most powerful mediators.
- Why did he choose language as a unit of analysis? Because outwardly, language mediates your actions and those of other people around you as part of social interactions. And inwardly, it mediates your thinking. So language is also the annex that connects your cognition and your behaviors and your thinking and your emotions.

And you were going to tell us also about Professor James Lantolf.

- Professor James Lantolf used to be the chair of the American Association for Applied Linguistics, AAAL. And I was working with him as a visiting scholar at Penn State University about ten years ago. And ever since then, we have been working together and communicating very frequently online or in person. And he has visited China four or five times over the years.
- He's the one who introduced to us the very frontier studies of SLA within the framework of sociocultural theory. And he's the one who helped most Chinese scholars understand what sociocultural theory is. And why are we studying SLA from the lens of sociocultural theory rather than the other theories. And what are the advantages of working with it.

How popular are these theories in foreign language classrooms today in China?

- I think we are moving away from the niche research status of social culture theory. At first, it was not quite familiar to Chinese scholars for sure - I mean, ten years ago. But now we have been organizing conferences and workshops, especially in the last three years, 2023, 2024. We've had one or two workshops and five or six conferences with a focus on social culture theory.

What about in the classroom - how many teachers are actually implementing these social cultural ideas or rather integrating these ideas into the way they teach?

- I'm not quite sure about how many, but these days when I'm sharing what I have been experimenting with, or what I have been researching, with scholars from different universities who have invited me to do a talk or anything like that, I can see from their participation and their attention to my talk –instead of playing with their mobile phones– they are listening to me. That means they are getting more and more interested and they understand what I'm talking about.

According to this perspective, what can we do to teach second languages more effectively?

Thinking practically, what can we actually do as teachers?

- From the lens of social cultural theory, firstly, when we prepare for the classes, we would like to diagnose the students' ZPD.

What is ZPD?

- ZPD is the Zone of Proximal Development. It's the distance between what a learner can do independently and what they can do with help from more capable peers or an expert. We would like to teach students within this zone so that –to give a metaphor– you would like the student to jump a little bit to reach the peach. So you would like to see the students' ZPDs, then struggling to get the peach. But you don't really want them to pick up the peach too easily.

Okay, it sounds like a delicious objective. You prepare this in advance, so I suppose you think about it and the capabilities of your students. Is there anything else that you can physically do once you're in the classroom?

- Okay, you would like to provide contingent mediation like hints and models of dialogic feedback rather than static explanations. And you should also require the learners to externalize their thinking, or we can say engage in languaging through various tasks, so that they will interact with each other or collaborate with each other to reach a higher level.

Let me come back to the zone of proximal development because there is another term which is scaffolding. I think people are more familiar with scaffolding than with the zone of proximal development and I fear that some people might confuse the two. So why does this potential confusion exist and how do you distinguish between them?

- The confusion began in the late 1970s when Courtney Cazden and later Jerome Bruner working

from English translations, equated scaffolding with Vygotsky's ZPD. I think it started there. The mistranslation of the Russian term обусловливать (obuslovlivat) is as “cause” rather than “ascertain”. Cause is what is caused by something. Ascertain is to distinguish or identify differences. It made ZPD sound like a support structure to be removed. So it sounds more like a scaffold. But in ZPD we would like to continuously provide mediation, not just to provide what they need, but to diagnose their current level and also their future level. What is the potential level of that student? So that means you would like to extend the ZPD A to ZPD B, ZPD C. So one scaffold is aiming at the present: What do you need now? But ZPD is aiming toward your future. So what do you need for the future?

How can you integrate these ideas into the language classroom? Because I'm just thinking, if you have 25, 30, 35 students in the classroom, this sounds to me as if it requires quite a lot of independent attention. So knowing each student and their needs. How do you do that?

- To give you an example, the research I've just finished, and had published in *System* recently, the context was a writing class. The task was continuing a text, or as we say in Chinese "shū", that's a post-reading task, writing the continuation of a passage if you translate literally. It's a type of task where you give the students a pre-story and you ask the students to write what will happen next.
- The word limit is 120 words for high schoolers. But when I'm teaching these students as sophomores, I think 120 is too few words. So I increase it to 250, which is a little bit higher than Band-4, or we can say the level of the College English Test in China, the national English test for all college students or students from universities. They have Band-4 and Band-6. It's just between Band-4 and Band-6. So that is the teaching within the ZPD.
- If they complete the task by themselves independently there will be problems, of course. But we introduced AI to help them first, so the help will be individualized at first. And then we provide teacher feedback to help them improve. That is how you work within the ZPD—you're teaching within the ZPD, and you provide mediation either with technology or yourself.

In this study that you have just mentioned, you said that you were using AI to assist EFL learners with their writing. Overall, what was the response of the students? How did they respond to the use of AI as an assistant?

- To be honest, some of the students were not quite familiar with AI. They had heard about it and they sort of knew what to do with it. Mostly they would copy and paste text back to their papers, to their file, to their document. However, we figured out that this is a waste of the AI tool as a native

speaker, even though it's artificial. So we did some interviews with the students and asked, "What were you doing with AI and how did you do?" And unfortunately, they did not know how to use it to help themselves improve their writing skills. The most serious issue was how to write effective prompts. Then we had a lesson specifically on training them how to write prompts. And that helped a lot, from the interviews by the end of the term, a lot of students mentioned that class. So that means students need more mediation on how to use AI.

I take the comments about the class were positive. They appreciated the help.

- They appreciate the help. However, you were asking about their responses. Even though they learned how to prompt and how to improve their writing with AI, their focus differed. They focused not only on word choice and syntax, but also on content and many other issues. Different problems emerged according to what we recorded on the screen with Translog-II.

How did the students use AI in this specific exercise?

- At the very beginning, according to their behavior features, they did a lot of cutting the whole paragraph or the whole piece of writing and pasted it into AI. Then later on, they were picking up the sentences and putting them into the AI to refine them. And at the end, after they had refined every sentence, they would refine the whole piece so that logically there would be improvements. That means they're not only working with words or linguistic units, they are working with the whole piece.
- But if you ask students to write on their own, in most cases, they pay too much attention to wording or vocabulary or semantics. And they might pick up some keywords from the pre-story, but it's not enough.
- The other issue is how to keep on track with the storyline? In many cases, they don't know how to conclude because their imagination is too diffuse. It's difficult for them to close up. Then I used another technique which is concept-based instruction. Later on, we called it concept-based language instruction to distinguish it from content-based instruction. I gave them a SCOPA to tell them how to keep on track while they narrate a story. So that helped a lot too.
- That means it's not just AI that is helpful. You need to tell them how to use AI. Also, you need to tell them cognitively how to understand what a narrative is.

So that is the students. What about other teachers? How do teachers overall respond to AI challenges, or at least the ones that you work with? And what are they doing to motivate

students to effectively use technology in language learning?

- Let me start with technology first. It's not just AI, because AI only came into existence about one and a half years ago. Three years ago? I think Chinese EFL, foreign language teachers, they started to get familiar with AI because of DeepSeek. That's been big news in China, I think it was at the end of last year.

Quite recently.

- But I guess for international scholars or in the Western world, AI was available two years earlier than that. We had ChatGPT, but we had limited access to ChatGPT. We knew what it was, but probably not that many teachers were able to have access to use it. So that means it was difficult for them to integrate it into their classrooms. But with DeepSeek, it's local and domestic, so we have very easy access to it and teachers have started to use it. However, according to research that I did last term, during the winter holiday, I interviewed about 54 to 60 teachers working in universities, I don't think they really understand what AI is about and what its functions are and how AI can help them. They have very general ideas about using it to provide feedback and reviewing writing tasks. Very few teachers know how to design tests with AI or to design some interesting tasks when they prepare for the classes. But they are aware of the technological obstacles. They mentioned lack of practice, lack of communication, and lack of support from their institutional management and from peers. Most of the teachers are puzzled. They feel like they can't get help. It's difficult for them to seek help from the community around them.
- And there are also some others who are resistant to using AI, claiming that even without it, they can do very good language education. Some attended some kind of workshops, but they were too advanced. Teachers didn't actually understand much. They were not interested in researching AI-assisted language teaching, they were interested in teaching with AI. So that means the support they were getting was not within their ZPD. So they were experiencing a kind of technophobia, I guess. But more recently in China, the Bureau of Education has been releasing documents or policies advocating AI use. I guess nowadays they are obliged to use AI.

What about at school level? Are schools implementing AI overall or is it still very much that some are and some aren't?

- I think the schools are advocating AI use as well. They are opening some projects and applications to everyone within the campus. Among the staff, if you are interested, then you can apply for funding for an AI plus a certain course project to build up a course, an AI-assisted course, like

what I'm doing now.

So, there are basically a lot of opportunities at the moment available to not only second language teachers, but all teachers at all levels to try to integrate AI into their classes.

- Not that many scholars or teachers are so keen on working out a totally new course with AI tools that is suitable for an 18-week term. It's hard work. It's like building up a new book, only that you have to work with your laptop rather than in a studio like this. But it still requires a lot of work. You have to learn new technologies and things like that. But you can get some funding.

It's good to hear. And for anyone out there who is looking for a research project, here you have excellent opportunities.

- Thank you.

You had mentioned before something else I wanted to pick up on, and that is the importance of concepts and conceptualizing ideas. So this is actually quite close to my own research. Tell us more about this and concept-based language instruction.

- Thank you for the question. That is something I really wanted to talk about. Implementing concept-based instruction is usually quite challenging for teachers, not only for students but also for teachers.
- Concepts are like the modal verbs I wrote about in the Modern Language Journal paper. It is a series of concepts, firstly, it's not just one concept. It's about a whole system of concepts. The difference between the concepts and the language units you are teaching, why don't you teach "can" or "could" or "may" separately? Why are you teaching "can", "could", "may" and the other modal verbs, all together 12, in concept instruction?
- That is because in most cases if you teach them one by one, they are learned through drills or rules of thumb, things that students can remember. But you don't really understand why they are called modal verbs. What is special about modal verbs? What are the differences among the 12 modal verbs? What are the similarities between them? What are they used for? So that is the concept of the whole thing.
- Another thing is that we have to understand that there are two concepts. One is everyday concepts. The other one is scientific concepts. Everyday concepts are the ones that you pick up through your personal everyday life or everyday experience. Scientific concepts can only be learned through formal education.

- So that is the problem. Four seasons. Some kids from the southern part of China don't really understand what winter is. But you have been taught by school that what winter is, what autumn is, what spring is and what is summer. Over here I guess the kids only know what summer is. Because it's too hot.
- So that's the differences between scientific concepts and everyday concepts. So, to teach students with concepts is instruction. That means to give the students the proper mediation about the scientific concepts. First, by verbalizing. But later on, you ask the student to visualize the concept. That is to draw a diagram that is called SCOPA, to represent that concept. And then the students will language the concept. Or we say that languaging, either verbal or written. Why do we need the verbalizing part or the languaging part? That is, even though you can draw it, you think you understand. That is the mystery of language. If you are asked to explain to others what it is, you might have difficulties. But once you can explain to others what it is, that means you understand, you have internalized it. That is the concept or the philosophy of concept instruction. That is why we are using it.

You had mentioned earlier that this was part of a study that you had published recently. What was the outcome of the study? Was the study successful? Did the students really learn better? Did they learn faster?

- Actually, for concept instruction, it is called Systemic Theoretical Instruction by Gal'perin - has been tested not only in English education, but also in many other subjects. In more than 800 classrooms, it has been tested. And nowadays, I think there are between 200 and 400 published references in a bibliography that I have organized. The outcome of my research is that many previous studies have only focused on either languaging or SCOPA building. They had their own coding schemes for analyzing the data. However, I thought, no. For concept instruction, it's a holistic system. You start the concept explanation by the teachers, then you provide a teacher generated SCOPA, then you ask the student to build their own SCOPA, then you ask the student to use language to express the concept and finally you determine whether they have internalized the concept or not.
- So that is the whole system, why should we separate it? My research integrates all of the processes or phases into one study, which is one innovation. Another thing is we designed some coding schemes, not only for SCOPA, but to connect SCOPA with languaging, both oral languaging and written languaging. Because it is the whole process of internalization, you cannot separate it. So we describe the whole process, which is another innovation.

- And the final result shows that higher-level English learners felt more comfortable with concept instruction. Lower-level learners struggled more with it. However, the gains as shown in their English tests, for lower-level learners are more significant. So they felt they were struggling, but actually they gained more. For higher-level learners, I guess they showed smaller achievement gaps but their SCOBAs were more abstract and systemic. For lower-level learners, their SCOBAs were discrete and concrete. So that is what we have found out, basically.

I hope this is part of the training that your students are getting, so they'll be able to implement this in the classroom as well. It certainly sounds like a good strategy to be using. Just one final question. What are you working on now?

- Thank you. I'm glad you asked. At the moment, AI is part of my national research project, a funded project. So, I have targets to complete. I have to work with AI. I know you're not quite in agreement with me about integrating into the classroom too much.

On the contrary! I think we need to integrate it and ensure that our students graduate as AI experts.

- Good. Thank you. I'm glad you said so. I'm trying to work with AI to refine all of the objectives under the framework of sociocultural theory. For example, I'm working with one of my students on AI-assisted concept-based instruction. And I'm also working with another student on AI-assisted dynamic assessment. This year, I've been working on AI-assisted language teaching and AI-assisted teacher development. I hope in the future I will focus more on classroom-based AI research because that's the key to future education, right?

I agree. I think that is the future indeed. And certainly, the way that we train new teachers has to include AI for them to be able to use it in their teaching. Yes. Do you have any final words for our audience?

- I think AI is the renaissance of the recent world, especially the rebirth of traditional thinking into a totally brand-new world aiming toward the future. We need to open our arms to welcome it. But at the same time, of course, we need to be cautious when we are planning to integrate it into the classrooms. Thank you.

Thank you very much, Professor Lili Qin. We hope to see you again soon.

- Thank you for the talk.

Thank you for joining us on exploring the humanities from the Hong Kong Polytechnic University.
For more episodes or information, do visit our website or follow us on Spotify. Stay tuned for
discussions with leading voices from the Faculty of Humanities and beyond.