Interview

"Education enables us to take responsibility in our society"

An Interview with Prof. Dr. Silke Hertel[1], Vice Rector for Student Affairs and Teaching, on Future Themes in Teaching and Learning

HINT: Welcome, Prof. Dr. Silke Hertel, and thank you for agreeing to this interview to discuss future themes in teaching and learning. In 2023, you assumed the role of Vice Rector for Student Affairs and Teaching at Heidelberg University. What motivated you to pursue this particular position?

Hertel: I did not pursue this position per se. Rather, the new rector, Frauke Melchior, approached several university colleagues to form a team of Vice Rectors. We got in contact because I was the spokesperson for Field of Focus 4 titled "Self-Regulation and Regulation" under the Excellence Strategy at the time. She knew that I was an educational psychologist specializing in research on professional competencies, adaptive education, and learning strategies with a special focus on how students learn how to learn.

Thus, when she asked whether I would be interested in becoming the Vice Rector for Student Affairs and Teaching, I did not hesitate. Thinking about teaching, developing it further — whether in schools or in higher education — is deeply meaningful to me as both a researcher and an educator. I had to leave some things behind, but I am truly excited to take on this new position and work with the amazing colleagues at Heidelberg University to kick off and advance meaningful initiatives."

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HINT: Before we dive into the specifics, let me start out with a broader question. As an educational psychologist and Vice Rector responsible for teaching and learning, what do you consider to be the main purpose of teaching in higher education — not only within the university, but in light of the broader societal framework?

[1] Picture source: Tobias Schwerdt, © Marsilius-Kolleg der Universität Heidelberg

Hertel: That is a big question indeed, and there are many points one could address here. For me, the bottom line is that education is a very important aspect of our everyday lives. It opens countless doors. If you have relevant competencies due to a good education, this allows you to eventually access many career paths and on a broader level allows you to contribute to society as a whole and its current challenges. Education enables us to take responsibility in our society.

HINT: Attributing this kind of importance to education appears even more crucial today, since we are witnessing dynamic changes in nearly every aspect of our lives.

Hertel: Exactly. We are seeing significant changes in how we learn and gather information, particularly through artificial intelligence (AI). These changes deeply affect the way we learn and how we access and retrieve information. Therefore, education becomes even more important. Education not only allows us to access these new technologies, but also enables us to assess and evaluate them. The competence to judge new information that we are provided with by AI or the media, to critically reflect upon it must become a core objective of higher education. The recent global pandemic, along with the current political and environmental crisis, further demonstrates how imperative it is that members of societies develop competencies to take different perspectives, to balance opinions, and to approach scientific data.

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Furthermore, these challenges posed by the rapid changes in society, the environment, and technology affect the future career paths of our students. More flexibility in professional career paths and agile biographies will likely become the required norm. Therefore, as an institution of higher education, we must respond to the current developments and changes to make our students fit to meet current and future challenges. One way of dealing with this is that we need to provide research-based education at university, since research always points to the future.

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HINT: Fostering research-based teaching and learning to enable students to develop those crucial competencies is something that must take place within the disciplines. Is there an overarching approach for the university as whole?

Hertel: Apart from tackling and shaping the future from the perspective of the disciplines, we definitely need a broad education that allows students to tap into different fields with

the option to develop various other competencies while being at university. One such opportunity that we offer at Heidelberg University is the field of transversal skills, or general competencies ("Übergreifende Kompetenzen"). Every bachelor curriculum has allotted 20 credit points to courses in which students can pick classes from different disciplines to figure out what might be of interest to them. Besides studying their major subjects, I think this is particularly important because this can help students develop interests and perspectives from other disciplines.

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Additionally, Heidelberg University offers a polyvalent bachelor's degree that allows students to delay the choice of their future careers: only once they have obtained this bachelor's degree must they choose whether they want to become a school teacher or select a different career path. Flexible models like this will become more important in higher education and in programs for lifelong learning that bring people back to the university throughout their careers. We must provide high-quality, research-based education that meets the needs of our diverse students at any stage of their educational careers.

HINT: You have mentioned the dynamic developments that are affecting and reshaping the educational mission institutions of higher education face today. The most challenging one at the moment appears to be the large-scale advent of AI in terms of availability and potential. How do you assess this situation? How should universities deal with the ubiquitous nature of AI, particularly in teaching and learning?

Hertel: First, I must admit that I am a little bit biased towards AI because I have been really interested in educational technology from my professional perspective as an educational scientist. I am truly fascinated by the opportunities that are out there right now and what might be possible in the future. But I also know and acknowledge that there are different perspectives and attitudes towards AI among members of the university. My positive attitude towards AI and my curiosity about it are personal perspectives and I am aware that we need to balance that out together with the colleagues from different disciplines. We are already in the midst of a discussion about how to deal with AI in teaching and learning —as well as in research— on the international scale with our partners from the 4EU+ alliance and the LERU network. There are certainly differing perspectives on the matter.

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HINT: Would you be willing to share some of your personal views?

Hertel: Allow me to speak as an educational scientist: I wholeheartedly believe that we must harvest the possibilities that come along with AI, especially with regards to providing quality and inclusive education for our diverse student populations. This starts for me with utilizing the potentials that AI, including Large Language Models (LLMs), already offer to cater to various students' specific learning needs and situations, including particular dis/abilities. We have already made efforts to raise awareness among both teachers and students to assess particular learning needs of students. From there, we can start to employ AI tools that help create individual learning experiences.

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HINT: Could you give some concrete examples?

Hertel: Sure. Take specific situations, such as visual or auditory disabilities, for example. With the help of AI, it becomes incredibly easy to create automated subtitles for videos or during video conferences. Similarly, AI tools can convert text to audio. Options like these do not only benefit learners with particular physical or neurological dis/abilities but also help student with different language proficiencies, such as international students. AI can already translate texts and audio quite smoothly. Therefore, using AI actively in the field of teaching and learning can create more adaptive education for specific learning contexts.

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HINT: This helps students and teachers alike, right?

Hertel: Absolutely. Take language, for instance. As a university, we must talk about how we want to deal with internationalization. This includes research cooperation, our study programs, and the composition of our students. Some teachers might not feel comfortable teaching or communicating in English, for example. As mentioned already, AI offers easy-to-handle solutions for live translation and other opportunities to make communication across language barriers simpler. This is also true for our international collaborations, alliances, and projects.

HINT: Do you see any further potential apart from these hands-on technical solutions?

Hertel: Definitely! AI has the potential to shape individual learning environments by addressing our students' need for one-to-one feedback situations — something that is incredibly difficult to provide as a university teacher, especially in a lecture hall of 200 students.

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Students can use AI as a feedback giver and learning partner, providing them with valuable insights and feedback on their learning process. Additionally, AI can be helpful in creating strategic learning plans while preparing for the exam. However, it must be used critically: AI is neither inherently good or bad, but needs to be treated carefully. Students must learn to reflect upon what AI offers them. Teachers and students should explore together how and when to use AI tools. In sum, I think, AI has the potential to promote students' self-regulation skills and to help them learn more independently by providing insights into the own learning structures. If we are able to learn about AI together as a university community, it will definitely support the quality of higher education.

HINT: This is an important point. There must be a joint effort by the whole community to develop an appropriate usage of AI in higher education. What steps should we take to achieve this?

Hertel: First, we should become aware of the diversity of educational needs that our students bring with them. Without this awareness, we won't be able to use AI meaningfully to target these needs and make education more inclusive. Several of our institutional organizations already offer materials and courses for teachers and students to learn about AI in a

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university context. The <u>Department of Teaching & Learning at heiSKILLS</u>, the <u>Heidelberg School of Education</u> and <u>the Heidelberg Center for Digital Humanities</u> are good examples here. The University Computing Centre (URZ) has launched the <u>YoKI chatbot</u>. And we have recently established an <u>AI board</u> that is working on a holistic strategy for the university. Similar initiatives are going on in our international alliances and networks.

Our teaching staff has different preferences as well when it comes to AI. Some colleagues are happily trying out every new tool instantly, while others are more reluctant. However one might feel about it, though, it is absolutely crucial that we start this conversation now. This conversation, of course, cannot be limited to our institution. The field is so dynamic right now and I am convinced that we stand to gain a great deal from experiences

of others. It is great that we are part of the <u>bwGPT</u> project — supported by the ministry — that explores the use of ChatGPT in higher education in Baden-Württemberg.

HINT: You just mentioned teachers who are hesitant to use AI in their teaching or who even want to ban it for students. What advice would you offer to them?

Hertel: It's important to note that we will not be able to prevent students from using AI. They are doing it regardless of what we as teachers think. As I just mentioned, we have plenty of initiatives within the university that might help those teachers take their first steps. Eventually, we must pursue an active approach and support students in acquiring the relevant competencies to deal with AI in a meaningful sense, to be reflective about it, and to critically evaluate whatever it provides us with. These competencies are incredibly important in the future. But these developments pose significant questions for our exams and the way we traditionally assess our students' learning. How do we assess competencies, such as academic writing, when students are using LLMs? Whose achievement do we credit? These are some of the most crucial discussions we need to be having right now.

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HINT: Your last point seems most relevant. By questioning the traditional culture of assessment, AI shakes the very foundations of higher education. It feels as if AI forces all of us to rethink teaching and learning on a fundamental level.

Hertel: I think so, too. I am confident, however, that we will only find sustainable answers to these questions if we embrace the discussion about AI both at the university and beyond. As mentioned earlier, there is so much potential in using AI tools to make for a more inclusive, adaptive, independent, and individual learning experience. I invite all teachers, disciplines, and faculties to participate in these discussions, to try out what is possible for themselves and to share their experiences with the teaching and learning community. There are already many practical and pragmatic tips out there. We, as Heidelberg University, should contribute to that effort as well. As Vice Rector, I will not offer a one-size-fits-all solution, but rather, I perceive it as my job to facilitate these discussions across the university, including the rectorate, teachers, students, and administrative staff.

HINT: You said that you are very curious about AI and have an affinity for technical innovation. Do you, as a professor, try out AI in your teaching?

Hertel: Sure! How could I make all those claims about the importance of AI as Vice Rector and then not try it out as a university teacher? In the winter term of 2023, I confronted my students with using ChatGPT in our classroom. This was quite interesting because the students were initially unsure when I told them that they could use ChatGPT to solve a particular task. They asked several times whether I truly meant it and voiced their astonishment. Even after they started working with ChatGPT in the classroom, some students came back and kept on asking whether I was really allowing AI in class. This shows how careful students are when it comes to these technologies.

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The funny part was that I had used ChatGPT myself to formulate the students' instructions students for how to solve the task at hand and had put them on the slides. Later in the process, some students came up with the idea of asking ChatGPT to give a list of steps to solve said task. What came out was a list of instructions remarkably similar to the one I had provided. When I then disclosed that I, too, had used AI to put together my instructions, this caused some amusement. But more importantly, it sparked a fruitful discussion about the usefulness of ChatGPT in certain situations and when it might be problematic. I tried similar approaches with different tasks during the course of the semester. Through this, we had a constant discussion and reflection about the potentials and challenges that the use of AI creates for us as teachers and learners: How and when is it meaningful to use AI? How do we prompt effectively? How do we evaluate the information? This is just one example of how to include the AI conversation in your classes and how to try out AI tools together.

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HINT: You heard it here first: the Vice Rector for Student Affairs and Teaching strongly advises all teachers and students to use AI in class and encourages them to find out about a productive and learner-friendly usage. But on a more serious note, for me it seems inevitable to deal with AI in higher education in such a manner, right?

Hertel: Let me stress that even further: I find it incredibly important! It is our fundamental responsibility as a university to tackle AI in teaching and learning. Think about transformative competencies and future literacies that our graduates need in their professional careers or research fields — how can we prepare them for these by ignoring AI? Our graduates must be competent users of AI in order to be relevant in the job market and in order to contribute to society. Therefore, if we take our objective of providing high quality education seriously, there is no way around making AI an integral part of our teaching and learning. Please do not feel pushed, but know that you are highly supported at Heidelberg University.

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HINT: You just mentioned AI competence as one of the crucial transformative competencies that students need to acquire. This hints at one of the core objectives of any educational institution, including the university: enabling graduates to deal with challenges in the future that we cannot yet anticipate. How can we achieve this, especially in light of the sheer speed of innovation all around? How do we address this dilemma?

Hertel: First, we should not become frustrated. This is the very nature of education! Let us stay interested in what the future might bring, work together to shape the future of our study programs, and thereby shape the future of the education we provide for our students, not every day, but almost every day. Eventually, that is one of the great advantages of teaching at a university compared to being a school teacher: we have the chance to shape our study programs and define the competencies that we want to impart in regard to our own perspectives and positions. This might not be at the level of curricula, since changing those is a lengthy endeavor – and rightly so. But we can think about additional programs, new certificates, and innovative opportunities to develop individual learning paths and flexible educational biographies.

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We have already kicked off the discussion about flexibility and transformative competencies at Heidelberg University and we try to base all of our discussions — as we should as academics — on research in the field. This conversation has already spread across the whole university and, again, should include students, teachers, and administrative staff as well.

HINT: The next logical step would be to open this discussion to actors from outside the university as well.

Hertel: That is absolutely necessary. We need to involve players from outside, from society, from industry partners, and from other institutions, especially colleagues who are experts in their fields. Professionals from various areas will help us identify transformative competencies even more clearly. We need to bring these external impulses back to our internal discussions of developing our programs further – whether as micro-credentials, certificates, structured study programs, interdisciplinary perspectives, lifelong learning, or courses on transversal skill and general competencies.

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HINT: You already mentioned the international collaborations, networks, and alliances. How much of a focus is the internationalization of teaching for your tenure?

Hertel: We have to rethink internationalization of teaching and learning in light of the developments we have discussed so far. AI and digital solutions will influence the whole student life cycle even more in the years to come. The same is true for the question of dynamic and agile student biographies. Internationalization plays a major role here. We have plenty of connections to international partners within the 4EU+ alliance or our centers in Santiago de Chile, Kyoto or Delhi. The opportunity to have international study experiences for students from Heidelberg, and to have incoming students from our partners or from elsewhere through different exchange programs for shorter or long-term stays is very important. I am deeply convinced that these experiences shape individuals and enable them to develop important competencies, such as awareness of diversity and the ability to communicate in intercultural settings.

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HINT: In light of the technical innovations that we have discussed, the international experience – or at least parts of it – might increasingly be possible digitally. How do you assess virtual mobility in terms of the internationalization of teaching and learning?

Hertel: We are tapping into this, especially with our partners in the 4EU+ alliance, where we are working on providing an authentic international experience to our students even while they stay at home. Students might have many reasons for not travelling abroad for a semester, for a summer school, or for a particular workshop. Maybe they do not want to travel due to sustainability and environmental reasons. Maybe they cannot leave home because they are the primary caregivers of children or family members. Maybe their mobility is limited due to certain dis/abilities. Sometimes it simply might not be possible for them to spend time in Paris, Prague, Milan, or Copenhagen. Virtual mobility, therefore, adds another opportunity for becoming more inclusive in teaching and learning. Digital opportunities have been developed in the last couple of years and we are all used to meeting online for classes and working with online materials alone and in groups. Virtual mobility enables students from all partners of the alliance to have an international learning experience, to meet people from all over the world, and to learn from experts outside of your own institution. To support these new forms of international exchange, the alliance has come up with a program of "Shared Courses", which offers exactly that.

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HINT: International online classes definitely offer a lot of new opportunities for learning. However, they cannot replicate the full experience of being abroad in all aspects.

Hertel: This is true, of course. Some things have to be experienced on-site. However, there are possibilities to create new spaces, especially for the social aspects of virtual teaching and learning. At the Institute of Education Studies, for example, we played around with a virtual institute on a platform called "Gather Town" during the pandemic. We mimicked our institute, our whole physical building with all of its classrooms, lecture halls, and offices. Students and staff could navigate through the virtual institute using avatars: attending office hours, bumping into each other in the hallways, or gathering in front of a virtual classroom was great fun and created a different kind of connection and social interaction among students and staff. Such digital platforms could potentially supplement virtual teaching and learning in our international collaborations as well.

HINT: Apart from the technical infrastructure needed to build a meaningful and sustainable environment for the internationalization of our study programs and virtual mobility, it seems crucial to discuss language and how students and instructors would communicate. Would you suggest that English should become our primary medium of instruction?

Hertel: Let me first stress that there are very good reasons for why the majority of our study programs are taught in German, especially at the undergraduate level. But teaching in English also offers significant potential, and I would always support those instructors among our teaching staff who feel comfortable teaching in English. It is a complicated matter since English as a medium of instruction also affects our administration and several legal questions would need to be sorted out. Nevertheless, making our study programs more international will only work if more and more courses and programs are offered in English. It not only increases the number of potential students, whether on-site at Heidelberg or virtually through the 4EU+ alliance; it also increases the number of international experts who would be able to teach at Heidelberg. We already have a great number of brilliant researchers within the university who could contribute to our programs in a productive and meaningful manner but who cannot teach in German – at least not initially. There is, therefore, quite the potential to develop our teaching further by being open to English as a medium of instruction.

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HINT: This absolutely resonates with our work in our Teaching & Learning unit at heiSKILLS, where we also try to find a balance between taking the needs of our German-speaking students and staff seriously while at the same time providing quality training for people who are still learning German. It is reassuring to hear that you as the Vice Rector are not pushing all of us in one direction, but are creating an open space for discussion on all of these matters. I think it has become very clear in this conversation that your idea of further developing teaching and learning at Heidelberg University is very much committed to processes of participation of all status groups and stakeholders from inside and outside the university.

> "The pressing questions and dynamic issues that we all are faced with today in the field of higher education make it imperative to work together. The future themes of teaching and learning can only be addressed through the joint effort of smart and enthusiastic people."

Hertel: That is exactly right. I am truly grateful for the opportunity to work on these important issues in my current position and feel incredibly motivated to do so for the rest of my tenure. Two years might seem a very short or a very long time, depending on how you look at it. We have already kicked off several projects and innovations, and we will definitely continue to do so in the future. To reach short-term and long-term goals, we need the whole community of

the university to be successful. The pressing questions and dynamic issues that we all are faced with today in the field of higher education make it imperative to work together. The future themes of teaching and learning, whether we think of AI, the flexibility of student biographies, or internationalization, can only be addressed through the joint effort of smart and enthusiastic people. I know that there are many such people here at Heidelberg University and beyond, and I invite everybody to participate in this process.

HINT: Thank you, Silke Hertel, for taking the time.

This interview was conducted by Dr. Rafael Klöber

Prof. Dr. Silke Hertel is Professor for Personal Competencies in the School Context at the Institute of Education Science at Heidelberg University. She is a passionate teacher and renowned researcher in the field of empirical educational research. Professor Hertel held several positions at Heidelberg University, such as speaker of the Research Councils Field of Focus IV "Self-regulation and Regulation", Dean of Studies and Director at the Institute of Educational Science. Since 2023, she has served as the Vice-Rector for Student Affairs and Teaching.

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