Lecturer – Results

What is your initial impression of the potential educational impact of these platforms?

* No impact at all
* Great opportunity
  + Create a platform with no limitations (location, size/scalable, experience/immersive, no barriers)
  + Improve communication
  + Support visual learners, improve knowledge transfer with visualization
  + Higher engagement
  + Good for further/future development
* Skeptical
  + Loss of human interaction

1. Students do not have to rebase for their studying. Online lectures could be much more immersive than an uploaded video. Subjects which require hardware resources--e.g., technical computer science--could be done from anywhere and with any number of students as the limitation of acquired hardware becomes irrelevant.
2. To break physical and temporal barrier, and allow better communication.
3. I don't think they will have any impact in the next 10 years.
4. A metaverse platform as a medium through which educational content can be taught and learned has especially high potential to support visual learners and to convey concepts that are difficult to understand without visualization (e.g. microscopic phenomena). Moreover, it has the potential to add interactive features to new and existing contents that facilitate the effectiveness of exercises, for example.
5. None.
6. My initial impression is that the metaverse has tremendous potential for transforming education. The immersive and interactive nature of these platforms can create engaging learning experiences that go beyond traditional methods.
7. Well, my initial impression is somewhat skeptical. I've always valued real, physical interaction in education, and the metaverse seems to prioritize virtual experiences. I'm concerned about the impact on genuine human connection in the learning process
8. Positive, they will offer a lot of opportunities for education to evolve

How will advancing metaverse developments affect education?

* Not at all
  + Especially for Germany
* In a good way
  + VR / AR / mirror world applications
  + Real-time, avatar
  + Collaboration & problem-solving
  + Individual studying/learning
* Badly
  + Loss of personal interaction, only technology – no human engagement
  + Teachers need education

1. As of now, not at all.
2. Functionalities of the metaverse such as real-time avatars, motion capture or virtual reality can be used in education scenarios such as simulated classroom, for example, assembly line in a factory.
3. I don't think it will affect education at all in the next years.
4. Besides the potentials stated in the previous question, there will be the need to educate teachers to integrate such media into their educational concepts.
5. Not much, at least not in Germany.
6. we can expect a significant impact on education. These platforms offer new avenues for collaboration, creativity, and problem-solving. Students can explore virtual environments, work on projects together, and gain practical experience in a way that mirrors real-world scenarios.
7. As the metaverse continues to develop, it might bring about changes in how education is delivered. However, I worry about the potential drawbacks, such as a loss of personal interaction and the reliance on technology over genuine human engagement
8. Every student learns differently, the metaverse, and its application possibilities could offer a greater variety in offering content/enable learning

Can you envision specific scenarios where these platforms could be particularly beneficial for teaching information systems concepts?

* Yes
  + Learning hard skills
  + Foundations courses about hardware
  + Showcase
  + Intensify learning experiences
  + Show real-life IS without going to company, Organization process walk-through
  + More effective
* No
  + Real-world is better for IS
  + Not for university focused topics

1. Because information systems is a very people, organization, and market-oriented field, it is difficult to envision specific cases for Metaverse applications in information systems. I think that learning hard-skills, which is never the focus of a university, can strongly benefit from Metaverse. For instance, requirements engineering with user stories could probably be made much more immersive, whereby the learning intensifies.
2. To show the real life IS examples without going to an actual company
3. Maybe in foundation courses where students learn about IT hardware and network technologies to showcase how certain applications work.
4. It is mostly useful for technical concepts (e.g. how a processor works) and socio-technical concepts (e.g. gamification) that can be experienced.
5. No.
6. The metaverse can provide a dynamic space for teaching information systems concepts. For instance, students could collaboratively build and analyze digital systems in a virtual environment. Simulating complex IT scenarios or showcasing real-world applications of information systems becomes much more effective and engaging in a 3D metaverse.
7. While I see the potential for visualization and simulation in teaching certain concepts, I believe that the core understanding of information systems is better achieved through hands-on experiences and real-world applications. The metaverse may have limited benefits in this regard
8. Walk through an organization's processes, get to know different departments of a fictional organization, follow an order in SAP, ...

In your opinion, how might incorporating 3D metaverse platforms enhance or hinder students' learning experiences in information systems?

* Enhance
  + Immersive better for interaction pc organization / technical
  + Immersive is better learning
* Hinder
  + Cost and hardware
  + Less real-world perception, distraction, disconnection
  + Technical instability
* Support & Teaching for access, not only Contents

1. Enhancement might come from more immersive experiences in interacting with computers and organizational problems. Hindrances might especially be different hardware versions, purchasing costs for students, educators and organizations, implementation costs for specific course content, and customization for universities.
2. The simulated environment can be scaled or speed up and down to make better presentation. However students may lose the impression of the real world perception of time, distance, effort etc.
3. It may help to enhance their understanding of certain technical concepts. On the other side, it may could distract them from learning.
4. Visualizations and exemplifications are very beneficial, but not every person is suited to use these kinds of media. It can also hinder effective learning, also though technical instability.
5. It could be used to foster more involvement in group assignments. However, depending on the platform, learning experience could be negatively influenced because of usability issues and the resulting frustration.
6. When used thoughtfully, incorporating 3D metaverse platforms can significantly enhance students' learning experiences. The immersive nature fosters a deeper understanding of concepts and encourages active participation. However, challenges may arise if the technology is not well-integrated or if it becomes a distraction rather than a tool for learning
7. Incorporating 3D metaverse platforms may hinder learning experiences by creating a disconnect between the virtual world and the practical realities of information systems. The hands-on nature of this field is crucial, and relying too much on virtual environments could lead to a superficial understanding
8. They might offer different perspectives and/or another way to consume content, however all students should be able to access the platforms (technical setup) and it should not be the only way of transmitting content

How feasible do you think it is to integrate 3D metaverse platforms into a Bachelor-level Information Systems curriculum?

* Infeasible
  + needs to be requested of working market
  + Lack of resources & knowledge
  + Lack of resources & knowledge, infrastructure
* Needed
  + Facility resources
  + Depends on curriculum
  + Depending on teacher
  + Paedagogical values?
* Feasable
  + Walk-through museum with content (time intense for content development)

1. As of now, it is infeasible. But, this may change in the near future (i.e., 5 years). If handling the Metaverse becomes a requested skill in the labor market, it becomes worthy to incorporate Metaverse competences into curricula.
2. Depending on the resource of the teaching facility
3. Currently, I think it is not feasible because applications are not mature enough and the education system lacks the resources and knowledge to integrate it in the curriculum.
4. Not a problem. Every teacher can use them as they want.
5. Not feasible. Currently, specific niche-devices are required for "metaverse" platforms. Furthermore, the infrastructure in German universities is not sufficient to provide the required support.
6. The feasibility largely depends on the commitment to incorporating new technologies into the curriculum. With proper planning, training, and investment, integrating 3D metaverse platforms into a Bachelor-level Information Systems curriculum is very feasible. It requires a proactive approach from educational institutions to stay ahead in the digital age
7. Integrating metaverse platforms into a Bachelor-level Information Systems curriculum may be feasible from a technological standpoint. However, the question is whether it aligns with the pedagogical values of providing students with practical, real-world skills and experiences
8. Feasible, e.g. virtual meet up in a room with posters of content (like museum walk-through), however, some time necessary to further develop the content of lectures to fit the new format

Are there specific topics within the curriculum that you believe could be effectively taught or reinforced using these platforms?

* Conceptual models, app development, software engineering
* Real-world modelling, showcasing, visualization, interaction
* system design, cybersecurity, and database management
* traditional (hands-on) still might be better
* processes of an organization

1. Conceptual modeling, software engineering, Metaverse app development.
2. Highly real-world related topics such as in production or logistic
3. Maybe to showcase certain theoretical or technical concepts.
4. See question on IS concepts.
5. No.
6. Certainly. Topics such as system design, cybersecurity, and database management could greatly benefit from immersive experiences in the metaverse. Students can visualize and interact with complex systems, gaining practical insights that transcend traditional teaching methods
7. Certain theoretical concepts might benefit from visualization in a metaverse environment, but when it comes to practical skills, I believe traditional, hands-on methods are more effective. It's essential not to sacrifice substance for the sake of novelty
8. Understanding the processes in an organization

How would you plan to encourage adoption of the metaverse solution among educators and students?

* Not at all currently
* Encourage through
  + Prototyping, trials, demos
  + Show usefulness, success stories
  + Training & support
  + Unique cases that need the metaverse

1. As of now, I would not.
2. Make prototypes and start trial within educators and students.
3. As I don't think it yields large benefits, currently I wouldn't encourage the use at all.
4. Demonstrate the usefulness.
5. Give them a unique use case that cannot be accomplished by other technologies.
6. To encourage adoption, it's crucial to provide adequate training and support for educators. Demonstrating successful case studies, showcasing the benefits, and fostering a collaborative community around metaverse education can inspire both educators and students to embrace these innovative tools.
7. Frankly, I would approach this cautiously. Encouraging adoption would require demonstrating clear educational benefits that go beyond the current methods. Convincing educators and students would be a matter of proving that the metaverse enhances, rather than replaces, the valuable aspects of in-person learning.
8. Show demos, offer support for implementation/how to use platforms

What role do you think 3D metaverse platforms play in engaging students with course content?

* None
* Both
* Positive
  + Higher interests of students, more curiosity, attention, engagement
  + ownership of learning journey
  + deeper learning
  + more gamification

1. As of now, none.
2. Both positive and negative
3. It may spark their interest in certain topic and helps them to understand certain topics easier through "virtually" playing with the lecture content.
4. See questions before.
5. None.
6. The 3D metaverse can revolutionize student engagement by offering a more interactive and participatory learning environment. It allows students to become active participants in their education, fostering curiosity and a sense of ownership over their learning journey
7. While the metaverse may offer a novel approach to engagement, it's crucial to consider whether it promotes deep learning or simply captivates attention momentarily. Engaging content should not come at the expense of substance and genuine understanding.
8. Provides students a new way to consume content and exchange, could increase engagement through gamification of course content

How could the metaverse improve or possibly worsen the knowledge transfer and its availability in university education?

* Worsen
  + Parallel implementation & teaching
  + Expensive (license?)
  + Hardware available ?
  + No knowledge transfer within universities
  + unnecessary complexity or distractions
  + gap between theory & real-world
  + too much focus on technical set-up
* New roles for professor and students
* Improve
  + Less people to pay

1. "As information systems is a human-oriented management discipline, it is challenging to think of the metaverse role in its education.

challenges:

- Implementation time while courses need to be running.

- Specific application may be licensed and expensive.

- Students need to acquire hardware.

- Different hardware version might have different features.

- Moving course content from Slides into interactive models.

- Redefining the role of professors and teachers in university education. "

1. make it less personal
2. see answers above
3. Same answer as for the enhancements and hindrances for students.
4. There is hardly any knowledge transfer in universities.
5. The metaverse has the potential to improve knowledge transfer by making information more accessible and engaging. However, if not implemented thoughtfully, it could worsen the learning experience by introducing unnecessary complexity or distractions. It's essential to strike a balance and ensure that technology enhances, rather than hinders, knowledge transfer
6. The metaverse may improve knowledge transfer in some theoretical aspects, but I'm concerned about its impact on the practical application of knowledge. If not used judiciously, it might create a gap between theoretical understanding and real-world skills
7. Less focus on actual content and more focus on technical setup in the beginning, no personal contact/exchange between students, and students and lectures

In your view, what strategic advantages do you believe a metaverse solution brings to university education, and how can it transform the overall learning experience for students, educators, and institutions?

* None
* Advantages
  + Digitalization
  + USP for uni (inclusive and flexible learning, better preparation for changing digital world)
  + Collaboration (location-independently)
  + Accessibility
  + advanced learning experience (blended learning)
* Critical
  + Maintain core values of education

1. make the institution more digital
2. Not of my knowledge
3. duplicate question
4. First part of the question: It can provide a USP for universities to make them stand out among other universities. Second part was already asked before.
5. None. Universities are not measured in terms of learning innovation nor performance. I therefore cannot see any strategic advantages for universities beyond marketing.
6. A metaverse solution can offer strategic advantages by providing a more inclusive and flexible learning environment. It can transcend geographical boundaries, enabling collaboration among students and educators worldwide. Additionally, the immersive experiences can better prepare students for the rapidly evolving digital landscape, ensuring they graduate with practical skills
7. I see potential strategic advantages in terms of accessibility and global collaboration. However, the transformation of the overall learning experience should prioritize maintaining the core values of education—authentic learning, critical thinking, and human interaction
8. Trying out a new technology, advancing the learning experience, additional offer for students (blended learning)

Are there any concerns about the impact of these platforms on traditional teaching methods or established learning outcomes?

* Compliance, data privacy
* only addition/ complementation, no replacement
* differentiation between real and virtual world learning
* resistance towards change
* reassure set-up

1. not of my knowledge
2. Regulation compliance, data privacy, should keep a physical component
3. I don't have any concerns but currently, I don't see any benefits that it could bring.
4. Metaverse platforms should be seen as a tool, an addition to existing formats, not as a replacement. Only use it for individual exercises where useful.
5. Assuming that learning on metaverse platforms really does have a positive influence on student engagement, educators have to reflect on what sets "real-world" learning apart from "virtual" learning.
6. While the metaverse offers exciting possibilities, there are concerns about potential resistance to change and the need to adapt traditional teaching methods. It's crucial to address these concerns through proper training, support, and a phased approach to implementation, ensuring a smooth transition.
7. Yes, I have significant concerns. The metaverse should be seen as a tool to complement traditional teaching methods, not replace them. If not used thoughtfully, it may dilute the quality of education and compromise established learning outcomes
8. Should not be the only offer to consume content and learn, technical setup must be available for all students

Are there emerging trends or developments in educational technology that might complement or challenge the use of these platforms?

* Not aware of metaverse in education
* Complementing Trends
  + AI (Conversational bot based on language models)
  + Personalized learning platforms
* Depending on technology and educational goal

1. AI could Forster the education
2. It takes more than 5 years to become a hype.
3. Not aware of such trends but I am also not aware of any useful metaverse applications in the education context.
4. Conversational bot based on language models.
5. 🤷🏻‍♂️
6. The metaverse is just one aspect of the rapidly evolving landscape of educational technology. Emerging trends, such as artificial intelligence in education, augmented reality, and personalized learning platforms, can complement the use of the metaverse. However, challenges may arise in integrating these technologies seamlessly, requiring a holistic approach to educational innovation
7. There are always emerging trends in educational technology, and some may complement the use of metaverse platforms. However, it's essential to critically evaluate each trend to ensure it aligns with educational goals and does not compromise the integrity of the learning experience.
8. I don't know