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for Mandarin learners : interview with Natálie Káčová, Wei-lun Lu, Čeněk
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Immersed in Culture: Designing a Collaborative Virtual Reality Theatre Platform for Mandarin Learners

Interview with Natálie Káčová, Wei-lun Lu,
Čeněk Šašinka, and Alžběta Šašinková

Zsolt Almási and Kinga Földváry

The project **Virtual Reality as a New Medium of Understanding Culture** is dedicated to the development of a multiplayer immersive virtual reality platform for intercultural and foreign language learning mediated by playing theatre. The design of the theatre platform, aimed at learners of Mandarin, builds upon a previously developed solution from the TAČR project Education in Collaborative Immersive Virtual Environment (2020–2023). The project team consists of academics from the Faculty of Arts, Masaryk University, with backgrounds in sinology, theatre studies, psychology, information science and human-computer interaction. The team members will collaborate on the development, implementation and evaluation of the platform until the autumn of 2026. **Natálie Káčová** is a researcher and designer for educational immersive virtual environments in the Department of Information and Library Studies at Masaryk University. **Wei-lun Lu** is an associate professor in the Department of Chinese Studies at Masaryk University. **Čeněk Šašinka** is an associate professor in the Department of Information and Library Studies at Masaryk University. **Alžběta Šašinková** is an assistant professor in the Department of Information and Library Studies at Masaryk University. The work on the project is made possible by the support of the Technology Agency of the Czech Republic.

Zsolt Almási is an associate professor in the Institute of English and American Studies, Pázmány Péter Catholic University, Hungary. His book, *The Problematics of Custom as Exemplified in Key Texts of the Late English Renaissance* came off the press in 2004. He is the co-editor of journals *International Journal of Digital Humanities* and *Digitális bölcsészet* [Digital Humanities] and was co-editor of books with Mike Pincombe, *Writing the Other. Humanism versus Barbarism in Tudor England* (2008) and *New Perspectives on Tudor Cultures* (2012). More recently (2021) he co-edited with Kinga Földváry a special issue of *Theatralia*, ‘Shakespeare in Central Europe after 1989: Common Heritage and Regional Identity’. He serves as the head of the Department of English Literatures and Cultures, and the president of the Hungarian Shakespeare Society. His current

research projects and publications focus on Shakespeare, Shakespeare in the contemporary Hungarian theatre, digital Shakespeare, and digital and visual culture.

Kinga Földváry is associate professor at the Institute of English and American Studies at Pázmány Péter Catholic University, Hungary. Her main research interests include problems of genre in film adaptations of Shakespeare's plays, twentieth and twenty-first century British literature, and theories of visual and popular culture. She has published widely in journals and essay collections; she is the author of *Cowboy Hamlets and Zombie Romeos: Shakespeare in Genre Film* (2020).

[guest]

Could you tell us a few words about how the project was conceived and built?

The idea for the project has been reappearing during the prior work of our multi-department team on designing educational experiences for immersive virtual reality (hereinafter 'iVR'). It has become our dream to further delve into 'doing art' with iVR – to design an educational intervention with a strong artistic vision. In addition, from the perspective of Mandarin language teaching, the use of iVR is still quite a rare practice, despite the fact that it has an unparalleled advantage – for students of sinology based in Europe, the cost of mobility to East Asia is rather high and iVR can provide a cost-efficient way for the experience of culture and language practice. The cost of hardware, such as Oculus Quest 2 that we are working with, has significantly decreased over the years and we anticipate that the expenses associated with tutor training and content creation will similarly decline under the influence of generative artificial intelligence. Therefore, we try to focus on meaningful use of the technology that will only become more present in our daily lives.

It is intriguing that this project is to be implemented by Taiwanese and Czech researchers. How come the two cultures are brought together? Does it matter that the mediating language is English?

We have been collaborating on different projects before, but it is true that this project is different in its complexity and the fact that intercultural communication is not only our modus operandi, but also a key conceptual and research theme of the project. Perhaps because of that, we are more sensitive to the difference between our cultural backgrounds and spend more time reflecting on their presence and influence. We are still in the exploratory process about that – one of our Czech team members had the opportunity to spend a month in Taiwan, and we collaborate with learners of Mandarin who are Czech and all hold rich intercultural experiences. We appreciate that speaking English together makes us all put more effort into a clear mutual communication and believe that the use of English as a lingua franca should be encouraged in multilingual Europe. Moreover, to help us harmonise as a team full of people of different cultural and professional backgrounds, we are in a lucky position to be able to organise meetings in immersive virtual reality. Instead of merely talking about things, we try to simulate them in iVR and gain a shared understanding as a team.



Fig. 1: Screenshot from the multiplayer platform ENGAGE that the team used for testing the concept of playing theatre in collaborative immersive virtual environments

What is the general aim of the project?

The high-end aim of the project is to develop a novel form of intercultural and language learning that is mediated by playing theatre in multiplayer immersive virtual reality. Generally, we employ educational and artistic approaches and cutting-edge technology to craft an experience that allows users to become actors in multiplayer iVR and explore a culture through stories adapted from the Classical Chinese theatrical masterpiece *The Peony Pavilion* written in the 16th century.

How does the project mix VR technology with the theatre – how does the project mix the virtual and the real?

One of our early decisions was to develop a novel form of playing theatrical roles in VR rather than replicating the theatre as we know it from the analogue world. This

means that we depart from the real theatre as our source of inspiration and concentrate on inventing new features and activities that cannot be experienced in real life, but can be created virtually. This means that as a student, you will join a group of approximately five peers and a tutor. You will take on the role of a character from the play and rehearse scene by scene, following the script displayed as subtitles and learning to express yourself as the character. Instead of rehearsing on a traditional stage, you will be immersed in the historical environment where the story takes place, such as a courtyard garden. You will experience audiovisual illusions, dreams, the afterlife, and encounters with ghosts, all essential elements of *The Peony Pavilion*. Once your group is ready to perform, you can invite an audience to experience the story in virtual space alongside the actors. Additionally, we investigate how iVR can make acting more efficient by using tools such as personalised assistance and a virtual theatre prompter.

What are the advantages of using VR (and especially VR theatre/performance) over a traditional, in-person learning process?

One of our favourite iVR strengths is its potential to transform group dynamics towards higher activation and engagement of the learners. Once people enter iVR, they get curious and want to move around, ‘touch’ things and have fun together. This spontaneity and joy can drive the group towards a great performance, if you manage to balance the freedom of the users with a few smart and constructive restrictions. As everything happens in virtual space, you can overcome physical barriers and become (technically) a designer-magician, who allows the learners to experience, for example, what it feels like to have the power to cause a storm or become invisible to others. In the context of our project, the possibility of sharing a 3D space with others regardless of physical distance truly stands out. It is quite touching to meet virtually with students from Taiwan, for instance, see how reluctant they are in the first few minutes, only to surprise you a bit later with shaking your avatars’ hands while giggling. We hope that one day we will be able to rehearse our play together with them!

In what way can immersive methodology be combined with VR technology? How does this combination of immersive and VR complement each other, how can these two work together?

Immersiveness – the ability to surround the user with a virtual environment and make them feel like they are a part of the environment – is a definitive aspect of the iVR technology. Without immersion, iVR does not make sense, so we consider ‘immersive methodology’ as our own methodology or, perhaps better said, ‘philosophy’. Our task is to sustain the users’ sense of presence provided by immersive experiences, while also experimenting with immersion and its origins. That is where we benefit from other immersive methodologies, such as immersive theatre, by re-adapting their principles, such as those related to the interaction between actors and audience members in highly immersive settings.

How have students responded to their involvement in the project? Can you measure the effectivity of this form of learning (compared to a more traditional format/medium)?

As we are still developing our platform, we collaborate primarily with the students from the Department of Chinese Studies who have become our providers of insights about interculturality (as they are Czech, but have spent years learning Mandarin and living in China or Taiwan). For the students, our project is a refreshing opportunity to translate their expertise and lived experience into the field of technological innovation. We hope that they can see how valuable their expertise and insights are through our project.

For the purposes of evaluation, our plan is to design a full-semester course that will be held in iVR and will guide the students of the Chinese Department through a rehearsal and performance of the chosen play. To measure the effectivity of the learning process, we will develop a set of research tools, focused primarily on speaking skills and understanding of sociocultural themes and concepts. We will also conduct in-depth interviews and focus groups with the attendees of the course, asking them to reflect on their experience together and gain a better understanding of their experience as learners and users of the application.

We have some prior experience with comparing the effectivity of the learning process in iVR versus the face-to-face setting in our previous project called *EduInCive*, where we have designed a full-semester course for around sixty learners, half of whom attended the course in collaborative iVR and the second half joined an analogous course in the traditional classroom setting. We employed the methods of observation, questionnaires and interviews with the participants to compare what the experience was like for the two groups. Interestingly, iVR has proved a valid alternative to real classes in terms of the social aspects of education, such as eliminating foreign language related anxiety.

What are the specific aspects of the project that allow students to acquire cultural knowledge in this way? Is there any specific element of Chinese culture that can be transmitted more easily through performance (or in a VR setting) than in a traditional classroom context?

By using iVR, we are able to situate learners in locations and social interactions rich with cultural meanings, stories and artefacts, ready to be uncovered by the learners themselves. Rather than passively receiving cultural contents, learners will co-create the cultural sites as actors and encounter the culture as its (fictional) members. Compared to a traditional classroom, we expect that the immersive experience will encourage learners to be more proactive in identifying and interpreting cultural meanings of the play and will open an opportunity to reflect on the presence of cultural (meta)cognition – once learners step out of their characters, they will be encouraged to compare the virtual experience with their real-life experiences, perceptions, and knowledge.

Are institutions prepared technology- and hardware-wise for such an educational project?

From our experience, we can say that while the hardware may be obtained rather easily through grants, educational institutions, such as schools or public libraries, often

struggle to find the time and human resources to master the technology and use it meaningfully. We often see institutions buy plenty of hardware and only use it for limited and mainstream purposes or simply stop after a few failed attempts. To be iVR-ready means to have the time and support to build a relationship with the immersive technology and understand how to incorporate it into the life of the institution.

How do you see the future of this educational technology and methodology?

We have to be open to any future scenarios with emerging technologies, such as iVR. However, the trend that we can already see today is the hybridization of virtual and augmented technology. The new hardware, such as Oculus Quest 3 and Apple Vision Pro, no longer encloses the users in solely virtual space, but combines the elements of the virtual world with the surrounding physical space. This trend corresponds to the techno-social vision of metaverse, which is promoted by Meta, for instance.

As for the methodology, we see how many creative ideas that expand on real life solutions or look for alternatives are concentrated in the iVR field. We hope that in the future, the iVR creative use cases, such as our educational theatre, may become sources of inspiration (and critical mirrors) for the analogue *ways of doing things*. We wish to see the field of iVR interact more with *reality*, instead of becoming an isolated niche bubble.

You mention in the paper that VR creates a safe place for the educational process to avoid limitations created by shyness. What does this safe place mean in practice? Is this the safety of isolation or role-play? How can the communal, social aspect of education be integrated into this methodology?

The safe space created by iVR is a rather popular research topic that, of course, should be approached critically. Inside a virtual environment, you can 'hide behind' your avatar and perhaps feel more comfortable and liberated while interacting with others, but this can also create an obstacle to understanding others' true feelings. Lots of cues that appear inconspicuous, yet guide us through mutual interaction can be easily erased or misinterpreted in multiplayer iVR. That is a challenge for the designers as well as the tutor who takes care of the learners inside iVR. We have learnt to take a lot of preventive steps in order to turn an immersive virtual environment into a safe space. Some of these are soft interventions, such as agreeing on the rules of communication, checking up on the students regularly and reflecting on the experience together before saying goodbye. Others concern the development of features and environments that are non-threatening and offer learners safe, non-triggering content. When this is done properly, iVR can truly become a source of memorable and joyful experience for all kinds of learners.



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