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Reflecting practice: Preliminary findings from the evaluation of *For real? – Virtual encounters with Holocaust survivors*

The project *For real? – Virtual encounters with Holocaust survivors* gives broad public access to Holocaust survivors' memories in the form of volumetric videos. Ten answers from interviews with five survivors were selected from Film University Babelsberg KONRAD WOLF's archive and incorporated into a user-friendly virtual-reality application whose backdrop resembles a stylized volumetric recording studio. By placing personal encounters at the heart of the VR experience, this setting is intended to convey a strong impression of presence.

The VR app was conceived jointly by teams from the Film University and the Brandenburg Museum and embedded in a concomitant media-educational program designed to contextualize the content and encourage reflection.[1] A mobile version of the *For real?* exhibition toured public spaces in Brandenburg in 2023. In the first half of 2025, it toured eastern Germany before moving on to western Germany after the summer holidays.

This report begins by summarizing key insights from the first phase of the project. It then explains the research approach of the second phase and provides an initial overview of material gathered thus far. That includes the survey of visitors to the exhibition at sites in eastern Germany, and the results from three separate evaluation workshops. Whereas the first phase of the project focused on the reception by young people, the second phase's qualitative surveys were directed primarily at adults.

1 See this volume's "Transgenerational encounters: Expanding the *For real?* VR workshop to adults" (Baumann) and "Virtual encounters with Holocaust survivors: A round of perspectives" (Wegner).

Fig. 1: Screenshot – Interview with Kurt Hillmann (© Film University Babelsberg KONRAD WOLF)
Fig. 2: Screenshot – Interview with Charlotte Knobloch (© Film University Babelsberg KONRAD WOLF)

Summary of the first project phase[2]

The first evaluation was based on an online survey of visitors from the general public to sites in Brandenburg where the mobile exhibition was shown, as well as on group discussions with young people in school and extracurricular contexts. This was supplemented by input from scientists and educational experts in order to gain initial feedback on the reception and practical learning potential of the virtual encounters.

Results from the general survey showed broad approval for the exhibition: 97% of respondents indicated that they would recommend the format to others. All respondents reported being emotionally affected

2 Yurtaeva-Martens, Y. & Stockleben, B. (2024): Interner Abschlussbericht zur wissenschaftlichen Begleitung im Projekt *In Echt? – Virtuelle Begegnung mit NS-Zeitzeug:innen*, Laufzeit 2022–2024. Filmuniversität Babelsberg KONRAD WOLF.

by the exhibition. The emotional effect was not perceived as a contrast to the informational content, but as a supporting element. As for the pupils, a majority also evaluated the exhibition positively although in their case a considerably higher percentage found it not very emotionally intense or not intense at all. This suggests that the degree of intensity was more heterogenous for young people, and possibly more strongly influenced by their previous knowledge or by the educational framework.

Also positive but more varied was the feedback from workshop participants in a non-school educational context. This can be explained by factors such as the somewhat higher average age and the heterogeneous nature of the group. Although their responses showed a lower degree of emotional intensity, all participants considered the experience recommendable. The content of the virtual encounter was perceived as stimulating and highly worthy of discussion – especially regarding questions of historical responsibility. A majority of participants judged the presentational form to be respectful.

The results of the visitor survey and the group discussions with young people were then discussed in two rounds with experts in education, in the teaching of history and political science, and from academia. The aim was to compile initial feedback on the relevance and compatibility of the VR application for educational settings. A priority was placed on the potential for work with young people – provided that the format is embedded in a pedagogical framework. The application's immersive quality was described by some experts as a low-threshold form of access that attracts attention and can raise awareness for Holocaust testimonies, including among target groups with lower previous knowledge of the topic. A majority judged the VR application suitable for workshops or project days – but less so as a stand-alone format.

The experts also highlighted the role of outreach personnel in the successful educational use of the VR application. In addition to their technical skills and command of the content, their general attitude was considered essential. An openness to innovative formats, the ability to handle emotional responses, and discernment in dealing with proximity and distance were all described as prerequisites.

Hypotheses from the research report on the first project phase

Nine hypotheses were formulated based on the available results. They provide initial orientation for further technical and content-related development of the VR application and for the research accompanying the second phase of the project.

1) VR experiences can provide low-threshold access to complex historical topics such as the Holocaust.
2) Volumetric eyewitness interviews help younger generations to become aware of the impact of National Socialist history and crimes.
3) Virtual encounters with the volumetric eyewitness testimonies draw attention to individual forms of expression such as facial play, gestures and tone of voice – and thereby foster a more intensive, person-centered understanding of the accounts.
4) The virtual encounters not only elicit emotions but also stimulate cognitive reflection on the life stories and resilience of the Holocaust survivors.
5) The VR experience promotes a high degree of empathy in recipients.
6) The technical realization in virtual reality can divert attention from the content, especially when visual irregularities or artifacts are perceived.
7) A reduced virtual space promotes focus, but also poses a risk that some users will view the surrounding setting of the interview as artificial or meaningless.
8) The VR application develops its potential especially in connection with other media and educational formats.
9) The use of VR applications currently benefits from fascination with new technologies.

Participants in the second evaluation phase, methodological approaches and survey context

The second phase of the evaluation was directed primarily at adults. It currently contains input from 55 persons. The majority of voices (n=30) were those of walk-in visitors who filled out questionnaires in the eastern states of the exhibition's Germany-wide tour. The survey was supplemented with three separate evaluation workshops in Potsdam, Hannover and Wuppertal, respectively, with a total of 26 participants. The Potsdam workshop had 11 participants aged 25 to over 75. The Hannover workshop had 8 participants, all police force employees, ranging in age from 19 to 64. The workshop at the University of Wup-

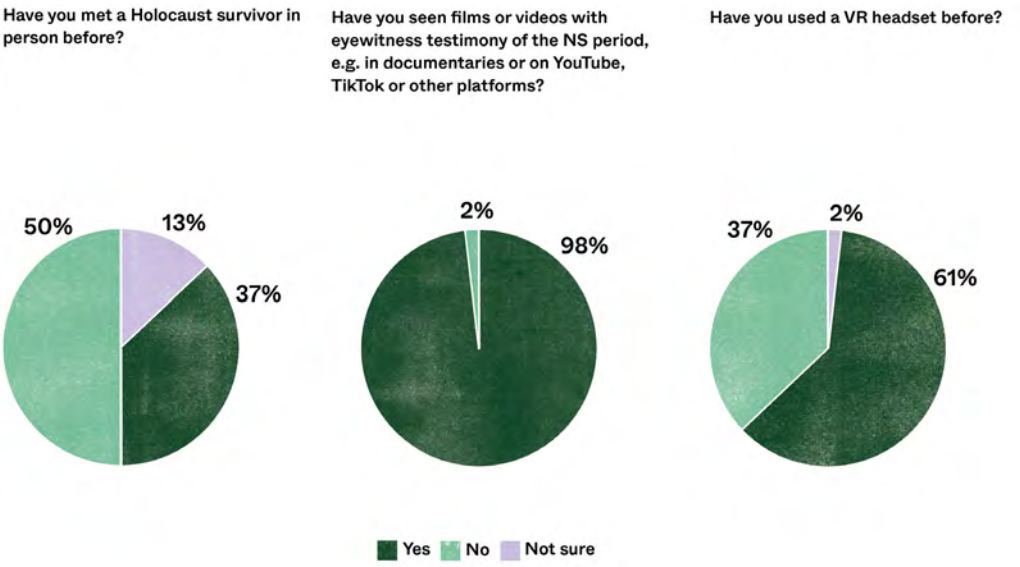

Fig. 3: Workshop participants' and walk-in visitors' previous exposure to Holocaust survivors and experience with VR headsets (© Sophie Tummescheit / Film University Babelsberg KONRAD WOLF)

pertal had 7 people aged 19 to 44, including students, alumni and one pupil.

Specifically with reference to the first hypothesis, the participants were asked about their previous experience with virtual reality and about previous meetings with Holocaust survivors in any form of media or in person.

Nearly all participants (98% / n=53) reported previous encounters with eyewitnesses of the National Socialist period in some form. As for in-person encounters, 37% (n=20) responded with yes, 13% (n=7) with not sure, and 50% (n=27) with no.

The majority of respondents (61% / n=33) had used a VR headset before, whereas 37% had never done so. All age groups were relatively equally represented in the affirmative and negative (yes, no).

Like the first project phase, the second phase also utilized different surveying and documenting methods that combined quantitative and qualitative approaches. Whereas the first phase took an open approach to gauging the exhibition's uses and effects, the second phase focused on testing selected hypotheses.

The second phase therefore used a revised, quantitively-oriented **questionnaire** filled out by visitors to the exhibition. Its aim was to systematically measure reception of the VR experience. In particular, it focused on possible relations between different forms of empathy and individual gains in knowledge or successes in learning. The questionnaire was based on the "Historical Experiences Framework" by Zachrich et al. which provides a structure for studying engagement with complex historical sources.[3] It distinguishes between four dimensions of historical experience: cognitive, affective, and physical, plus a unifying dimension that combines the other three.[4]

The questionnaire used a contrastive-pair method for most of the responses.[5] This method asks users to place each response on a scale between two opposing poles, which reveals gradations in their perception. The following tables show how the underlying framework was transferred to the questionnaire. The physical and combined dimensions are not included, because they are either not applicable to the VR experience or not measurable by questionnaire in a meaningful way.

The questionnaire also asked whether visitors would recommend the exhibition to other people. Responses provided the basis for a "net promoter" rating and associated categories from customer satisfaction research.[6] Although the "net promoter" score was originally developed for commercial contexts, its streamlined categorization yields an initial estimation of general satisfaction with the exhibition experience. Overall it yielded a very positive rating for the exhibition.

63% of respondents would recommend the exhibition with 90–100% probability to a friend or acquaintance and are categorized as promoters. For the "net promoter" score, one has to subtract the 18.5% of visitors who are extremely unlikely to recommend the exhibition and are termed detractors. This leaves what is still a clearly positive score of 44.5%.

3 L. Zachrich, A. Weller, Ch. Baron, Ch. Bertram, "Historical Experiences: A Framework for Encountering Complex Historical Sources," *History Education Research Journal* 17, no. 2 (2020): 243–275.

4 ibid.

5 This evaluative process is known in the literature as "semantic differential". See C. E. Osgood, G. J. Suci and P. H. Tannenbaum, *The Measurement of Meaning* (University of Illinois Press, 1957).

6 Frederick F. Reichheld, "The One Number You Need to Grow," *Harvard Business Review* 81, no. 12 (December 2003): 46–54.

Table 1a: Cognitive engagement (the left and center columns are from Zachrich et al., p. 252)

Cognitive engagement		
Response	*Definition*	*Counterpart in questionnaire*
Attentional focus	Learners deeply concentrate on the encounter with the source.	SD: gripping – boring
Imagination	Learners create a mental image or envision a particular version of the information presented by the source.	SQ: I can vividly imagine what it was like for the survivors under the Nazis.
Perspective recognition	Learners understand the view of the historical agent.	SD: authentic – artificial
Contextualization	Learners link the displayed information to their prior knowledge about the historical time/place/events.	SQ: The other materials were a good complement to the statements by the survivors.
(Sense of) insight	Learners believe they have a better understanding about the past because of new information gained from experience with the source.	SD: educational – valueless instructive – confusing

Legend:
SD: semantic differential
SQ: scale question (0=disagree completely, 6=agree completely)

Table 1b: Table Affective engagement (the left and center columns are from Zachrich et al., p. 252)

Affektives Engagement		
Response	*Definition*	*Counterpart in questionnaire*
Being moved	Learners are emotionally touched by the information the source conveys.	SD: emotional – rational moving – trivial
Personal attachment	Learners identify with the historical agent through a personal connection or perceiving the story from their point of view.	SD: uniting – alienating SQ: I can vividly imagine what it was like for the survivors under the Nazis.
Awe and reverence	Learners feel a deep appreciation for the historical agent and a connection bigger than themselves.	SQ: I could identify in a sense with the survivors – for example from similar experiences in my own life or in lives of people I know.
Historical proximity	Learners feel a spatial and temporal closeness to the past.	SQ: The survivors' stories made me feel that I understand Nazi history better.
Irritation	Learners have a feeling of irritation because of unexpected or conflicting information.	SD: unexpected – foreseeable irritating – calming

Another 18.5% of respondents fall into the "passively satisfied" category. These are visitors who rate the experience with 7 or 8 on a scale of 1 to 10.

Mapping the promoter/detractor groups onto the semantic differential scale (see Figure 4) shows that the recommendation probabilities accord with the desired responses in the framework from Zachrich et al.

Promoters rate the experience as more gripping, authentic and understandable, or as overall more positive than the "passively satisfied" group or the detractors. For some ratings, the detractors' responses show a greater relative deviation from the other users' responses. In particular, they rate the survivors' testimonies as less authentic, emotional, moving or uniting (see Figure 4).

The survivors' accounts were ...:

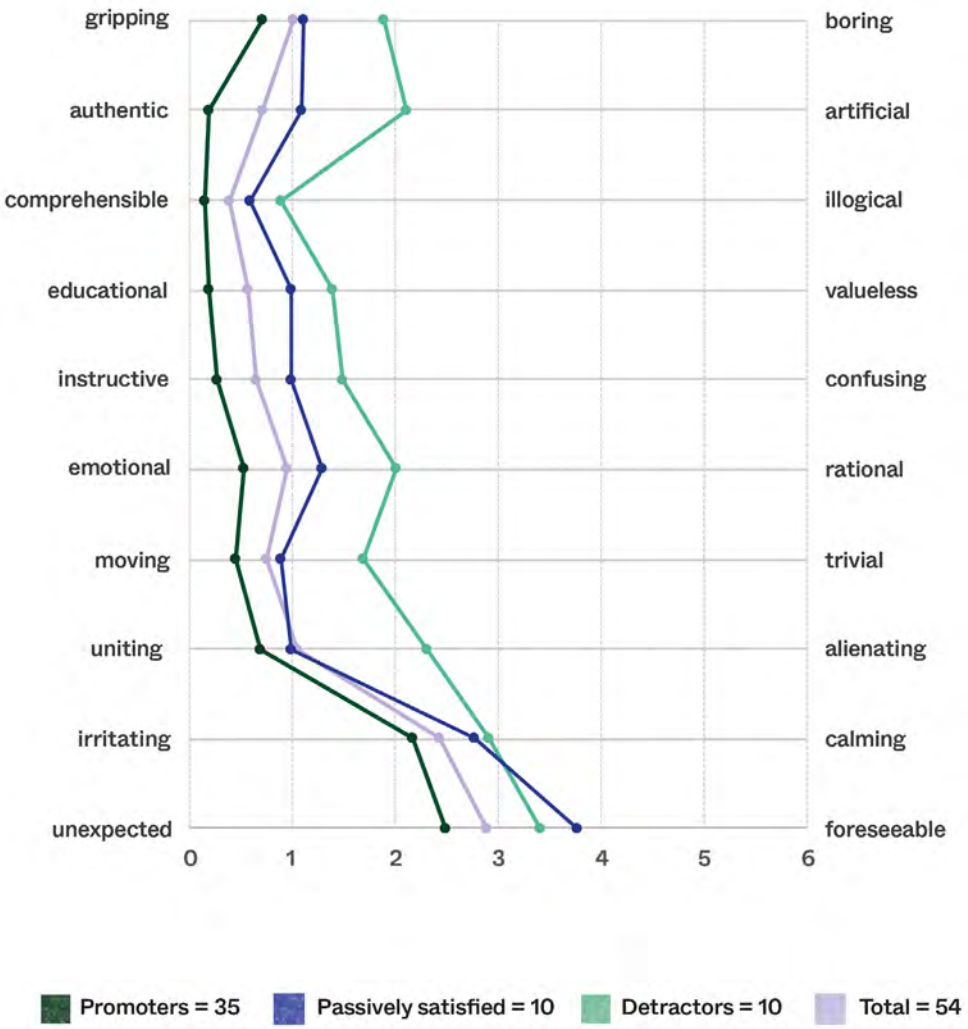

Fig. 4: Net promoter categories mapped onto semantic differential ratings (© Sophie Tummescheit / Film University Babelsberg KONRAD WOLF)

The questionnaire thus provides valuable indications of perceptual tendencies and the likelihood of recommendation. However, it is limited in its capacity to measure physical responses or implicit engagement processes.

Like the first project phase, the second phase also emphasized qualitative analysis – now in the form of **evaluation workshops** with a topic-based structure. Participants worked in small groups of 2–5

persons on more detailed questions about selected hypotheses, and provided written responses. These results were compiled and then discussed in plenary. The decision to work in small groups was based on experience from the first phase: large group discussions often had fatigue effects that limited response quality. Structured small-group work counteracted this tendency and enabled more detailed and nuanced responses.

As a supplementary perspective – also done in the first phase – the exhibition personnel were again involved in gathering qualitative data. Using a **web-based observational questionnaire**, they documented use situations as well as spontaneous visitor responses to the VR application.

Preliminary results for the hypotheses

At the time of press, evaluation of the research data had only begun. Extensive analysis and discussion of all the hypotheses will be presented in the project's concluding report.

Here we present initial considerations of **four selected hypotheses**.

The results of the second evaluation phase confirm the hypothesis that **the virtual encounters not only elicit emotions but also stimulate cognitive reflection on the life stories and resilience of the Holocaust survivors**.

The users engaged intensively with the survivors' biographies and showed interest in learning more about their lives – especially about the post-war period. Several workshop participants expressed a desire for more information about the survivors' experiences after 1945. One example:

For me it would also have been interesting to know how they dealt with the aftermath of 1945. In fact relatively soon after 1945.

Also of note was the detailed nature of participants' references to specific disruptions and moments of resilience in the survivors' biographies. One example highlighted how serious it was to still be experiencing discrimination decades after the National Socialist period:

Another really important thing in the person's story … you're studying medicine, and clearly he had a reason for wanting to become a doctor, because he also … rightly was at odds with Mengele. And then you

become head physician but lose your position, 20 years later, because you're Jewish. … That would haunt you for the rest of your life.

Engagement did not stop with the survivors' life histories. Workshop participants also discussed how these experiences affected the subsequent generations:

That has a really emotional effect on me at any rate. But then there's also what it meant for the next generations.

And how do you deal with that in your family? And what does it mean for the society as well?

It was also noteworthy that some participants related the survivors' testimonies to experiences in their own cultures and societies. After viewing the VR interviews, one individual originally from Benin drew parallels to the history of that country:

After using the VR headset, an older person who originally came from Benin said, 'Now I finally understand what the Holocaust is. It's very similar to our history of slavery… ' and explained why he was making that comparison.

Overall, these responses show that the virtual encounters not only had an emotional effect but also prompted a broad spectrum of reflection and cognitive engagement. Users not only engaged with the survivors' individual life histories but also made references to societal contexts and their own experiences. For the exhibition in practice, this means that formats such as the VR application can serve as catalysts for further reflection and discussion – which additionally extend beyond the immediate exhibition context.

The research results of the second project phase confirm that **the VR experience promotes a high degree of empathy in recipients**.

The users showed a high degree of empathy – as illustrated by numerous comments from "walk-in" visitors as well as workshop participants. For example, one person expressed the following during the tour of eastern Germany:

I had to cry. Whenever I look into this topic it really gets to me, and I think it's great to have the chance to engage so easily and directly with individual experiences. Especially in Zwickau that's soooooo necessary! We need need awareness and remembrance!

Some users explicitly stated that the VR headsets heighten this type of empathy. They explained this in part by the fact that one is completely alone in facing what is said, and in part because the 3D representation simulates a real-life encounter.

For me it was intensive and gripping. Especially from the isolation in VR, which only intensified the feelings the stories evoked in me.

The VR system was what made it more immediate, because I had the feeling that the person was sitting or standing across from me.

Also of course that I felt like I was sitting right across from her. But I actually found that more gripping, and this 3D experience almost essential for taking in, or taking on, that kind of story.

The users were aware of the emotional strain on the witnesses and acknowledged the courage it takes to talk about the experiences on multiple occasions.

Hats off to the survivors who told their stories.

I really admire these people for their courage in talking about what happened. This should be a required presentation for everyone, especially in schools!

All the workshops discussed whether the survivors were visibly ill at ease in the interview situation on account of the artificial environment or the arduous experiences they were describing. This question could not be definitively answered and could be pursued in future projects.

Overall, the results showed that the VR application can elicit intense emotional responses and generate a sense of proximity to the eyewitnesses. The immersive technology was considered a reinforcing element. For the exhibition in practice, this means there is major potential in the emotional impact – which however should be supported and contextualized by auxiliary formats.

The hypothesis that **the technical realization in VR can divert attention from the content** can be confirmed in part.

Users reported that they looked around in the artificial space and intermittently shifted their focus. In contrast to the previous evaluation round, however, no direct mention was made of visual irregularities or artifacts. Instead, some stated a need to improve the quality in general.

I'm disappointed by the weak quality of the VR 'experience'. The people leave an unreal impression.

Interest in the technology (I was amazed, but there's room for improvement).

The degree of distraction also seems related to the educational workshop's circuit of stations, and specifically to which point in the sequence users had the actual VR experience. Users who first examined the specifics of the recording situation then tended to pay more attention to the technical details and design of the VR space. As one said:

Yes, intriguing in a sense that those of you who went through other stations first were more attuned to the technical side.

These responses suggest that technical aspects – especially image quality and reflection on the setting's design – shape the user experience and can distract in part from the content.

As in the first project phase, **the virtual space promoted focus for many users but for some was perceived as artificial or meaningless**.

Users described the following impressions, for example:

And when you actually just have someone sitting in a white room like that, who also gives you the feeling they're looking at you, and I'm there totally on my own. But then they're telling me this story. That's the feeling that's conveyed. Then, I think you take in the content more consciously. Because you yourself, or your eyes, aren't distracted.

I think the exhibition definitely gives you a different perspective on life stories. But I'd find it better if the VR space were less sterile.

These statements make it clear that the minimalistic virtual space increases user concentration on the narrated content by minimizing visual distractions. At the same time, the comments reveal that while the sharply reduced setting can strengthen a sense of isolation and heighten focus directly on the story, the artificial quality can also impede the immersive effect for some users. This indicates that the design can be further optimized to enhance the balance between focus and authentic experience.

Summary and outlook

The *For real?* project team had decided from the start to comprehensively evaluate the exhibition and especially the effect of VR in the context of remembrance culture. The first project phase showed that the application is able to create emotional access, and therefore can serve as a low-threshold entry especially for young people to engaging with eyewitness testimony – provided that the experience is accompanied by educational supervision and expert support.[7]

Initial assessments of the second project and evaluation phase suggest that the immersive technology not only elicits emotional responses but can also encourage users to take on other perspectives and reflect further. In addition to affective and cognitive engagement, there are signs of social empathy with users making reference to marginalization, discrimination and social responsibility. Technical aspects – such as image quality or the recording situation – also influence the user experience. Embedding the VR application into an exhibition with a circuit of displays, or sequence of stations, also plays a role in reception.

In conclusion, one should note that all the users who provided data agree that the volumetric interviews with Holocaust survivors are no substitute for meetings in person. At the same time, most consider the chance to meet the survivors at least in a virtual setting to be important and necessary – especially given the fact that in-person meetings will hardly be possible in the future. As one of them put it:

When it's no longer possible to meet with survivors, the topic will lose some quality of reality. Then there'll just be subjects at school and nothing tangible anymore. Thanks to the survivors you have a person in front of you who can tell you about it. About what they actually experienced.

A concluding and comprehensive comparison of the results from the two project phases will follow. This project's final report will provide this integration, address open questions – for example on long-term effects or on transferring the experience to other target groups – and evaluate insights thus far in light of comparable studies on immersive forms of education and outreach.

7 Y. Yurtaeva-Martens and B. Stockleben, *Wissenschaftliche Begleitung "In Echt?" – interner Abschlussbericht* (2024).

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