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“Hello, How Are You Doing? How Does it Feel on the Other Side?” Social Challenges of International Synchronous Hybrid Learning Spaces. Students’ Perception and Design Implications

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Abstract

International Synchronous Hybrid Learning Spaces, in which local students and students from abroad participate synchronously online and on campus, offer opportunities for digital mobility and internationalisation at home. While research on Synchronous Hybrid Learning Spaces has expanded considerably, students’ perceived social challenges arising from the intersection of international diversity and multimodal participation remain underexplored. Addressing this gap, this study investigates students’ perceptions of social challenges in International Synchronous Hybrid Learning Spaces and derives design implications to mitigate them. To this end, a qualitative content analysis is conducted based on interview data with five students studying adult education at the Julius-Maximilians-Universität Würzburg, Germany. The findings reveal that group cohesion and translocal collaboration are constrained by structural heterogeneity in access, experiences of alienation linked to participation modes, and lecturers’ divisive verbal and non-verbal practices. To counter these challenges, the study highlights the importance of fostering opportunities for reflection and informal exchange, jointly negotiating group norms, and actively involving students as co-creators of the learning environment. Overall, the study contributes to the literature by demonstrating how the intersection of international diversity and multimodal participation amplifies social heterogeneity, structuring engagement, roles, and relationships in International Synchronous Hybrid Learning Spaces.

Keywords

Hybrid learning, higher education, international, co-creation

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«Hola, ¿Cómo Estás? ¿Qué tal se Está al Otro Lado?» Retos Sociales de los Espacios de Aprendizaje Híbridos Sincrónicos Internacionales: Percepción de los Estudiantes e Implicaciones de Diseño

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Resumen

Los Espacios Internacionales de Aprendizaje Híbrido Sincrónico, en los que estudiantes locales y del extranjero participan simultáneamente en línea y en el campus, ofrecen oportunidades para la movilidad digital y la internacionalización en casa. Aunque la investigación sobre el aprendizaje híbrido sincrónico ha crecido considerablemente, los desafíos sociales percibidos por el estudiantado en la intersección entre diversidad internacional y participación multimodal siguen siendo poco explorados. Para abordar esta laguna, el presente estudio analiza las percepciones del estudiantado sobre dichos desafíos y deriva implicaciones de diseño para mitigarlos. Se realiza un análisis cualitativo de contenido basado en entrevistas con cinco estudiantes de educación adulta de la Julius-Maximilians-Universität Würzburg, Alemania. Los resultados muestran que la cohesión grupal y la colaboración translocal se ven limitadas por la heterogeneidad estructural en el acceso, experiencias de alienación asociadas a los modos de participación y prácticas verbales y no verbales divisorias del profesorado. Para contrarrestar estos desafíos, el estudio subraya la importancia de fomentar oportunidades de reflexión e intercambio informal, negociar las normas del grupo e involucrar activamente al estudiantado como co-creador del entorno de aprendizaje. En conjunto, el estudio evidencia cómo esta intersección amplifica la heterogeneidad social y condiciona la participación y las relaciones.

Palabras clave

Aprendizaje híbrido, educación superior, internacional, cocreación

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With internationalization being a key issues in higher education today (Marinoni, 2019), *International Synchronous Hybrid Learning Spaces* have gained increasing relevance, in which local students and students from abroad synchronously participate online and on-campus within the same learning offer (Hümmer et al., 2025; Jean-Francois et al., 2025): On the one hand, they enable *students from abroad* who cannot travel due to financial or visa-related reasons to participate in learning mobility (Baclija Knoch, 2022; Wang, 2023; Yu et al., 2022). On the other hand, *International Synchronous Hybrid Learning Spaces* allow *local students*, constrained by family or work obligations, to gain international experience without going abroad (Brück-Hübner et al., 2024; Yu et al., 2022). In these cases, *International Synchronous Hybrid Learning Spaces* promote the reconciliation of academic studies, everyday life and internationalisation and, as a supplement to physical mobility formats, can appeal to specific student groups who, due to individual circumstances, would otherwise not consider a stay abroad (Brück-Hübner et al., 2024; Yu et al., 2022).

Nevertheless, participating in *International Synchronous Hybrid Learning Spaces* can be challenging for both local students and students from abroad. In addition to technological and organisational aspects, such as the appropriate use of media in class and structuring one's own environment to promote online learning (Bülow, 2022), challenges concern the social dimension: Regarding this dimension, Yu et al. (2022) identify communication gaps arising from geographical distance and technological barriers between online and on-campus participants. Rodríguez et al. (2022) report a diminished sense of belonging among students and a need for explicit support for social interaction. Baclija Knoch (2022) further argues that the simultaneous participation of online and on-campus participants can undermine group dynamics and that “there will almost always be some that are missing out, not only in terms of socialisation, but also in terms of informal learning experiences” (Baclija Knoch, 2022, p. 5).

However, despite initial findings, prior research has so far failed to adequately capture the challenges of the *social dimension* of *International Synchronous Hybrid Learning Spaces*, understood as the ways in which individuals involved in a teaching-learning setting interact and relate to one another. While empirical studies on *Synchronous Hybrid Learning Spaces* focus on the social dimension, the question of how challenges unfold in international settings is largely neglected (e.g., Wagner et al., 2025; Wheele et al., 2023). Conversely, studies that explicitly address *International Synchronous Hybrid Learning Spaces* embed the social dimension as one analytical aspect among others, without systematically analysing how students' perceptions of social challenges are shaped by the interplay of international heterogeneity of students and their different modes of participation (online and on-campus) (e.g., Jean-Francois et al., 2025; Rodríguez et al., 2022; Yu et al., 2022). This is critical, as only a consolidated examination of the social dimension can capture the interplay of participation modes and internationality that fundamentally shapes students' learning experiences in *International Synchronous Hybrid Learning Spaces*.

To address this gap, this study adopts a comprehensive focus on the social dimension of *International Synchronous Hybrid Learning Spaces*, systematically examining students' perceived challenges in relation to group composition, didactically promoted interaction, and the roles and relationships of students and lecturers. By foregrounding students' perspectives, the study contributes to a comprehensive understanding of challenges related to the social dimension, which are central for the design of inclusive and effective *International*

Synchronous Hybrid Learning Spaces. Hence, this exploratory study is guided by the following research questions: (1) *Which aspects of the social dimension of International Synchronous Hybrid Learning Spaces are perceived as challenging by students?* (2) *How should International Synchronous Hybrid Learning Spaces be designed to address the challenges?* To this end, the state of research is presented, and a theoretical approach is developed. Subsequently, the research method is outlined, followed by the presentation of the findings. Finally, key findings are summarised, the limitations noted, and points of departure for follow-up research identified.

The Social Dimension of International Synchronous Hybrid Learning Spaces and its Challenges

Previous Research

Previous research highlights a range of challenges related to the social dimension of Synchronous Hybrid Learning Spaces, many of which persist and are intensified in International Synchronous Hybrid Learning Spaces due to heterogeneous group characteristics, such as “different backgrounds, perspectives and working habits” (Jean-Francois et al., 2025, p. 156). Moreover, challenges arise from unequal access to digital infrastructure within the group and country-specific restrictions on digital tools, which particularly affect students’ online participation from abroad (Szopiński & Bachnik, 2022; Yu et al., 2022).

While interactive formats are associated with increased engagement and motivation (Gudoniene et al., 2025; Wheele et al., 2023), Synchronous Hybrid Learning Spaces designed as unidirectional streams are understood as limiting for collaborative learning (Röthler, 2022). Likewise, however, using interactive formats in International Synchronous Hybrid Learning Spaces poses specific challenges, as interactions must be coordinated across different countries and time zones (Yu et al., 2022).

Furthermore, studies on Synchronous Hybrid Learning Spaces report social challenges in relationships between students of different participation modes: Whereas on-campus participating students feel less connected to online participants, the latter report lower social presence, reduced relatedness, and a diminished sense of belonging, challenging relationship building and group cohesion (Rodríguez et al., 2022; Wagner et al., 2025; Zydney et al., 2019). Again, these challenges appear to intensify in the international context: Online participants in International Synchronous Hybrid Learning Spaces not only report feelings of isolation from both lecturers and on-campus participating students. They also experience emotional alienation linked to limited access to campus life and opportunities for informal exchange (Rodríguez et al., 2022; Yu et al., 2022).

Finally, empirical research highlights asymmetries in the role perception: While lecturers perceive online participants as passive “observer[s]” (Usher & HersHKovitz, 2023, p. 10), online participants feel like “outsider[s]” (Usher & HersHKovitz, 2023, p. 11), unable to effectively participate in the learning process. In contrast, on-campus participants are perceived as an active “audience” (Usher & HersHKovitz, 2023, p. 10). To address these asymmetries, research suggests assigning students the role of ‘chat moderators’ or ‘technology

troubleshooters’ to support translocal interaction (Bell et al., 2014; Zydney et al., 2019; Zydney et al., 2020).

Despite these insights, there is currently no comprehensive investigation of the social challenges in International Synchronous Hybrid Learning Spaces that systematically examines the interplay between students’ internationality and the different participation modes, and translates these insights into design implications.

Theoretical Approach

To examine the social dimension of International Synchronous Hybrid Learning Spaces and the associated challenges from the students’ perspective, a theoretical perspective is adopted which is grounded in the sociology of space, communicative constructivism, and a socio-material perspective on education (Goodyear et al., 2021; Knoblauch & Steets, 2022; Löw & Marguin, 2022).

Spaces are not only viewed as dynamic relational orders of entities at places (namely, people and material, social, or symbolic objects) that influence actions. Instead, spaces are understood as social constructs that arise through practices, in the form of perceptual, vocal, and physical actions of people relating to each other, objects, and media (Knoblauch & Steets, 2022; Löw & Marguin, 2022). Through digitalisation, spaces become increasingly delimited and can unfold translocally (Knoblauch & Steets, 2022). One can speak of a *Synchronous Hybrid Space* when the dichotomies of on-campus and online are merged in a learning environment through digital connection. The people involved in the emerging translocal space continue to perceive themselves as co-present actors, even though they are not physically co-located. An *International Synchronous Hybrid Learning Space* unfolds when local students and students from abroad participate synchronously online and on-campus in an educational offer, and international dialogue takes place translocally (Hümmer et al., 2025; Jean-Francois et al., 2025).

If International Synchronous Hybrid Learning Spaces are understood as fundamentally social constructs, their “co-configuration” (Sun & Goodyear, 2020, p. 15) becomes the focus of attention: Following Goodyear et al. (2021), learning spaces are not only perceived as being designed by the lecturer to foster learning. Instead, it is believed that lecturers recommend, e.g., tasks, appropriate tools and methods to the students based on didactical considerations, who in turn “customise what has been designed [...] for them” (Goodyear et al., 2021, p. 448) in order “to better suit the[ir] needs and [learning] preferences” (Sun & Goodyear, 2020, p. 15).

Next to the knowledge structuring dimension and the set design, namely the digital and physical setup, lecturers didactically recommend ways of organising the social dimension of Synchronous Hybrid Learning Spaces, which students (co-)configure (Breitschwerdt et al., 2024; Goodyear et al., 2021; Sun & Goodyear, 2020). This dimension refers to *group characteristics*, the *didactically promoted interaction* within the group, *relationships*, and the *roles* of students and lecturers (Breitschwerdt et al., 2024; Dörnyei & Malderez, 1997; Goodyear et al., 2021; Sun & Goodyear, 2020).

In International Synchronous Hybrid Learning Spaces, *group characteristics* are assumed to strongly influence social group dynamics (Dörnyei & Malderez, 1997). These include the

“characteristic[s] of [a] group in terms of age [...] and language, in addition to the cultural diversity within the group” (Tavares, 2024, p. 1552), but also heterogeneity in terms of media competencies (Bülow, 2022; Jean-Francois et al., 2025) and access to infrastructure and media (Jean-Francois et al., 2025; Rodríguez et al., 2022).

A second aspect of the social dimension concerns *didactically promoted interaction*. Lecturers design and encourage interaction to enable students “to interact with one another and thus form a group” (Dörnyei & Malderez, 1997, p. 77). In Synchronous Hybrid Learning Spaces, didactically promoted interactions may unfold translocally between online and on-campus students (e.g., plenary discussions), be limited to separate interactions between participant groups (e.g., parallel group work with separate tasks for online and on-campus participants), or be unidirectional, such as in lecture-based formats dominated by content delivery (Hümmer et al., 2025).

Closely related are the *relationships* among students and between students and lecturers, which are reflected in the group cohesion, the latter describing „the extent to which individuals feel a strong identification with their group” (Dörnyei & Malderez, 1997, p. 73).

Finally, the *roles* of students and the lecturer are identified as a relevant aspect of the social dimension of International Synchronous Hybrid Learning Spaces (Breitschwerdt et al., 2024; Dörnyei & Malderez, 1997). Both students’ and lecturers’ roles are shaped by external assumptions and self-perceptions (Weil, 2020).

Overall, the individual aspects of the social dimension of International Synchronous Hybrid Learning Spaces are understood to interact reciprocally. Nevertheless, they are analysed separately to explicitly identify what students perceive as challenging about each aspect and to derive design implications from these findings.

Method

Research Design

This exploratory study adopts an interpretivist epistemological orientation (Gattone, 2020). Space is methodologically conceptualised as a self-evident category of everyday life, which is always embedded in social practices, namely, people’s doings, sayings, and relatings (Kemmis et al., 2014; Löw & Marguin, 2022). Consequently, study participants’ knowledge of these spaces is largely pre-reflective (Löw & Marguin, 2022; Thierbach, 2024). Applying qualitative content analysis (Kuckartz & Rädiker, 2023) of guided interviews (Gläser & Laudel, 2010; Thierbach, 2024) enables the systematic reconstruction of these pre-reflective meanings by linking participants’ articulated experiences and perspectives to a theoretical framework, thereby making implicit perceptions of the challenges of the social dimension of International Synchronous Hybrid Learning Spaces accessible to empirical analysis.

Data Collection

To explore students’ perceptions of the challenges of the social dimension of an International Synchronous Hybrid Learning Space, a qualitative dataset was generated. Conducted via Zoom

in December 2023, the dataset comprised one group interview to capture shared perspectives and two individual interviews to explore personal experiences in depth (Gläser & Laudel, 2010). While the group interview and the first individual interview were conducted in English, the second individual interview was conducted in German – the native language of both the interviewee and the interviewers – because interviewee B4 was more comfortable expressing reflections in her first language. During analysis, this interview was examined in German, with selected excerpts later translated into English for the presentation of the findings. All interviews were transcribed using content-based semantic transcription and were anonymised in accordance with the guidelines of the German Research Data Centre for Education (Meyermann & Porzelt, 2014). The anonymised transcripts form the empirical basis for the qualitative analysis.

Sample

Five students participated in this exploratory qualitative study. They were recruited via personalised email in November 2023 and provided written informed consent for participation, data use, and publication.

The sample was purposefully selected to capture diverse perspectives across gender, modes of participation (online and on-campus), and cultural backgrounds, including students from Germany, other European countries, and non-European contexts (Table 1). The sample reflects the perspectives of students who alternated between online and on-campus participation and were therefore able to draw on experiences from both participation modes.

The study aims to generate in-depth insights into students’ experiences and perceived challenges rather than to produce findings that are statistically generalisable. In line with the concept of information power (Malterud et al., 2016), the small sample is considered sufficient to yield rich, analytically meaningful data relevant to the research questions.

Table 1
Study Participants

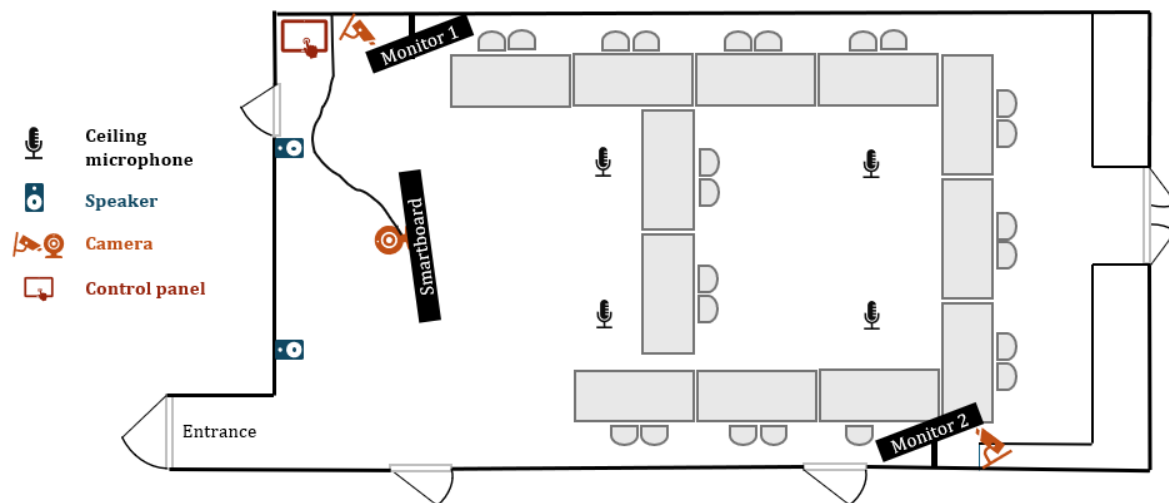
	B1	B2	B3	B4	B5
Gender	Male	Female	Male	Female	Female
Place of origin	Country in Africa	Country in Europe	Country in Europe	Germany	Country in Europe
Study programme	Exchange Programme (Erasmus+)	Double-Degree Master programme	Exchange Programme (Erasmus+)	Master programme	Exchange Programme (Erasmus+)
Status	Student from abroad	Student from abroad	Student from abroad	Local student	Student from abroad

	B1	B2	B3	B4	B5
Primary mode of participation	On-campus	On-campus	On-campus and online	On-campus	On-campus
Interview		Guided group interview (GGI)		Guided individual interview 1 (GII1)	Guided individual interview 2 (GII2)
Interview duration and language		79 minutes, English		62 minutes, German	37 minutes, English

The study was situated in a student-centred, international seminar on adult education, as this setting combined cultural diversity with a purposefully designed technological infrastructure, enabling an examination of challenges related to the social dimension of International Synchronous Hybrid Learning Spaces and the derivation of corresponding design implications.

Conducted in winter term 2023/2024 at the University of Würzburg, the seminar brought together 21 students from Germany (6), other European countries (7), and non-European contexts (Africa: 3 and Asia: 5), with flexible participation across online and on-campus modes. However, three students from abroad participated online permanently.

The seminar was embedded in an institutionally developed hybrid infrastructure, ensuring reciprocal audibility and visibility of all participants in the classroom (Figure 1). It was accompanied by a training called “*How to Hybrid?*”, during which the students were introduced to Synchronous Hybrid Learning Spaces through hands-on activities, enabling them to independently set up media throughout the semester and jointly establish a code-of-conduct for effective interaction.

Figure 1*Sketch of the Classroom**Note.* own Illustration

The seminar was taught by the second author. To reduce power-related bias, data collection was conducted by the other two authors, who were not involved in teaching the seminar. In addition, throughout the analysis, the researchers engaged in ongoing critical discussion of how their roles and positionalities shaped the interpretation of the data.

Ethical Considerations

The study participants were informed in advance about the study’s purpose, data collection, protection, and use. They were required to give their written consent to participate and to the processing of their data within the context of the study. To protect the identity of the study participants, the data were treated confidentially throughout the analysis by being thoroughly anonymised (Meyermann & Porzelt, 2014) and stored on password-protected external hard drives. In Germany, research involving fully informed volunteers who have given written consent does not require ethics committee approval.

As the authors are not native English speakers, ChatGPT-5 was used during the writing of this paper to shorten some of the authors’ original sentences, and Grammarly was used to support language editing. All AI-assisted outputs were reviewed and revised by the authors, who take full responsibility for the content of this publication.

Instrument

For the interviews, semi-structured guidelines (Gläser & Laudel, 2010) were created, which “ask about specific experiences, processes, examples, descriptions” (Thierbach, 2024, p. 136) when participating in the International Synchronous Hybrid Learning Space. As interviewees have only pre-reflective knowledge of spaces (Löw & Marguin, 2022), the guides were designed using three strategies (Thierbach, 2024): First, questions focus on familiar places (e.g., *Can you please describe the classroom?*). Second, questions address situations in which

the International Synchronous Hybrid Learning Space is present in the interviewees' minds (e.g., *From your perspective, what hindered the collaboration between the on-campus and online participants?*). Third, the International Synchronous Hybrid Learning Space is sometimes not explicitly addressed at all (e.g. *What aspects of the seminar do you find enriching?*), as “[e]very interview contains information about spatial structures, even if they relate to a different object of investigation” (Thierbach, 2024, p. 136).

Data Analysis

The data were analysed using qualitative content analysis sensu Kuckartz and Rädiker (2023), as this allows for a systematic integration of theoretically informed categories with participants' empirically grounded perspectives. In an initial data review, a basic understanding of the data material was gained. Based on theoretical considerations, the categories *group characteristics*, *didactically promoted interaction*, *relationships* and *roles* were deductively derived, and the data were sequentially coded accordingly. Subsequently, formal subcategories were inductively derived from students' perceptions of the challenges, anchor examples were selected, and definitions were formulated (Appendix). Finally, all the material was recoded using the differentiated category system. Ultimately, design requirements were derived for the identified challenges.

Overall, the coding process followed an iterative and reflexive approach (Ahmed, 2024; Tracy, 2010): Inductive subcodes were documented through the first author's reflexive journaling, and emerging interpretations were reviewed through asynchronous peer debriefings with the co-authors to enhance the credibility of the findings. Discrepancies were collectively reflected on, leading to refinement of the coding framework. For transparency, the research process, contextual information, sampling strategy, and the list of codes are disclosed in the manuscript and the appendix.

Students' Perceptions of the Social Challenges of International Synchronous Hybrid Learning Spaces and Implications for their Design

Drawing on the interview data, this study identifies, from a student perspective, social challenges related to *group characteristics*, *didactically promoted interaction*, *relationships*, and *roles* in International Synchronous Hybrid Learning Spaces. In each of the following subsections, the identified challenges are presented, followed by corresponding design implications.

Group Characteristics

From the intersection of heterogeneous group characteristics and students' different participation modes, particular social challenges emerge, thereby pointing to specific design implications.

Structural Heterogeneity and Linguistic and Cultural Frictions

The International Synchronous Hybrid Learning Space examined is characterised by a pronounced heterogeneity in students’ media competencies (B1/GGI; B2/GGI; B5/GII2), understood as the knowledge, skills, and motivational readiness to engage with digital media. While one interviewee, for instance, perceives her own use of media technologies in the learning space as “a game” (B2/GGI, Pos. 66) and actively experiments with the technological setup, which indicates a high level of media competencies, she reports a feeling of being overwhelmed among other students, suggesting a lower level of media competencies. These differing levels can be traced back to students’ prior exposure to media technology in higher education, ranging from predominantly “traditional” (B1/GGI, Pos. 90) on-campus teaching with minimal digital media integration for some to extensive prior experience for others (B5/GII2). However, media competencies and prior experiences do not remain individual background variables in the International Synchronous Hybrid Learning Space; instead, they become socially relevant, as they directly affect students’ ability to participate effectively. As a result, existing heterogeneity within the international student group is reinforced by translating technical confidence into social participation.

These dynamics are further exacerbated within the student group by structural heterogeneity in access to digital infrastructure and by country-specific media restrictions. In this regard, one interviewee reports that a fellow student was temporarily unable to join the learning session due to a lack of internet connectivity and restrictions in his home country, which affected the functionality of the digital tools used in the course (B1/GGI). In this case, infrastructure limitations lead to unequal access, thereby restricting opportunities for social engagement in the International Synchronous Hybrid Learning Space.

Beyond structural heterogeneity, the International Synchronous Hybrid Learning Space is shaped by linguistic and cultural frictions arising from students’ diverse ages, languages, and cultural backgrounds: While the students’ heterogeneity brings a range of perspectives and experiences into the learning process, it also leads to differing academic working methods, which can generate feelings of estrangement during collaborative activities, as described by one interviewee (B4/GII1). In addition, the use of English as a shared language of instruction poses challenges for non-native speakers: Arising language barriers are further intensified by media-related acoustic disturbances, which impede communication and ultimately restrict translocal interactions in the Hybrid Learning Space, as another student states (B2/GGI).

Applying Inclusive Practices to Support Equitable Participation

Given the internationality and the students’ different participation modes, inclusive practices are essential to support equitable participation in International Synchronous Hybrid Learning Spaces.

Lecturers should address students’ diversity in terms of media competencies and the country-specific restrictions on infrastructure and media within the group by selecting accessible, easy-to-use media (B1/GGI). This includes considering potential structural heterogeneity and country-specific barriers to accessing digital media from elsewhere and accordingly selecting media as inclusive as possible. Moreover, it must be ensured that students

can use the selected digital media. In particular, those with little prior experience with digital media in higher education require a step-by-step introduction, as stated by one student (B1/GGI). In addition to informal and ad hoc introductions to digital media, an introduction can also take the form of formal extracurricular training conducted in a hands-on, playful way, as indicated by another (B3/GGI).

To address students' diversity in terms of age, language, and culture, one interviewee suggests that lecturers should create spaces for transparent communication about the challenges posed by the international setting (B4/GII1). In these, students should be enabled to discuss points of friction, such as different academic working methods, and collectively find a way to address them.

In this way, applying inclusive practices functions not only as a design strategy but also as a social intervention aimed at counteracting the reinforcing effects of internationality and students' participation modes on interaction possibilities.

Didactically Promoted Interaction

In the examined International Synchronous Hybrid Learning Space, interaction not only serves as a didactic strategy but also becomes a socially demanding practice that reveals and reinforces asymmetries across different participation modes, pointing to specific design implications.

Intensified Interaction Demands and 'Quasi-Participation'

Two interviewees emphasise that interaction among all participants during learning activities is perceived as essential for fostering international dialogue and supporting learning processes (B4/GII1; B5/GII2). At the same time, they indicate that the stronger the interaction is didactically promoted by the lecturer, the greater the perceived demands on students (B1/GGI; B5/GII2). When learning content is delivered in a unidirectional format, e.g., during frontal presentations, the interviewees report comparatively low demands, as their role is primarily to receive information. Similarly, collaborative activities within online or on-campus groups are perceived as relatively undemanding, as coordination is required only among participants sharing the same mode of participation.

By contrast, translocal interaction between online and on-campus participants substantially increases perceived demands. In such, three interviewees describe an accumulation of media-technological and organisational demands arising from the different participation modes, which ultimately hinders social interactions (B1/GGI; B3/GGI; B5/GII2): Effective collaboration requires reliable audio and visual connectivity, which is often compromised by background noise in the physical classroom (B3/GGI) or technical difficulties affecting online participants (B5/GII2). Moreover, setting up media technologies for translocal group work is described as time-consuming, and insufficient time allocation by the lecturer can lead to heightened stress among the students (B3/GGI).

Translocal interaction is further constrained when online participants turn off their cameras and microphones during plenary sessions or group work, which one student interprets as a lack of motivation and attentiveness (B5/GII2). As she claims, for actively participating students,

this perceived “quasi participation” (B5/GII2, Pos. 43) leads to negative emotional responses, ultimately undermining collaborative engagement. Accordingly, it can be interpreted that International Synchronous Hybrid Learning Spaces not only create technical difficulties and organisational demands but also generate social tensions around accountability for the collective learning process.

Facilitating Engagement and Jointly Developing a Sense of Responsibility for Participation

To foster engagement among online participants in the International Synchronous Hybrid Learning Space, one should help mitigate the intensification of social demands for translocal interaction. In this regard, providing summaries of what has just been discussed helps ensure that online participants do not miss learning content due to technical disruptions, as one interviewee suggests (B2/GGI). In addition, addressing online participants directly to activate them during plenary discussions is seen by another student as an effective strategy to increase engagement and promote inclusion (B5/GII2).

When organising translocal group work, sufficient time should be provided for students to organise themselves within their respective groups, and local expansion options should be supplied, enabling on-campus participants to leave the classroom to continue group work elsewhere, e.g., in another adjoining classroom. This allows on-campus participants to interact with online participants in a quiet environment, unaffected by background noise, as stated by one interviewee (B3/GGI).

Beyond these organisational measures, the findings highlight the need to establish shared behavioural norms in International Synchronous Hybrid Learning Spaces, as was done during the *How to HybrIDD?*-training at the beginning of the semester. By jointly defining a code-of-conduct that everyone adheres to, the students cultivate a sense of responsibility toward successful interaction and the collective learning process (B2/GGI; B5/GII2).

Relationships

In the researched International Synchronous Hybrid Learning Space, relationships are strongly shaped by local separation and mediated presence, as well as unequal access to informal interaction, resulting in feelings of alienation and perceived exclusion. This highlights the need for distinct design implications.

Alienation and Exclusion from Informal Interaction

Because online participants from abroad are primarily encountered through video frames and mediated audio, two students report difficulties in forming a holistic impression of one another, which contributes to a perceived sense of alienation towards them (B3/GGI; B4/GII1). This perception is poignantly illustrated by one interviewee’s rhetorical reflection, implying that the students perceive a gap between the different participation groups: “Hello, how are you doing? How does it feel on the other side?” (B3/GGI, Pos. 84). Thus, it becomes apparent that mediated

visibility in the International Synchronous Hybrid Learning Space constrains the perception of proximity and reinforces a feeling of separation between online and on-campus participants.

But even more, the difference in participation modes results in unequal access to informal interaction opportunities that extend beyond formal in-class communication: While on-campus students can engage in spontaneous exchanges before or after class, online participants are largely excluded from these informal moments (B3/GGI; B4/GII1; B5/GII2). This limits opportunities for relationship building and, consequently, undermines the development of group cohesion.

Designing Informal Exchange Opportunities

To strengthen relationships and cohesion, opportunities for translocal interaction should be deliberately integrated into the design of International Synchronous Hybrid Learning Spaces. Creating shared break-time can help counteract the relational divide between online and on-campus participants and help students “vibe together” (B3/GGI, Pos. 49), as one interviewee stated. This can be achieved, for example, by ensuring they do not spend their breaks separately and instead setting up a laptop that enables translocal conversations during breaks.

Roles

Finally, the findings reveal that roles in International Synchronous Hybrid Learning Spaces are shaped by participation modes and reinforcing asymmetries between on-campus and online participants. Again, this points to concrete implications for role design.

Reinforced Outsider Positioning and Unequal Role Assignment

Overall, interviewees perceive pronounced differences in the roles attributed to students in the examined International Synchronous Hybrid Learning Space (B2/GGI; B4/GII1; B5/GII2): While on-campus participating students are appreciated as an engaged audience, actively and spontaneously contributing without explicit verbal invitations, online participants are described as passive outsiders (B2/GGI; B4/GII1; B5/GII2). Notably, one interviewee expresses a strong understanding of the perceived passivity of online students:

“And if I were participating online, I might also think, yes, that is now/it is more of an exception somehow. [...] Maybe it's not appropriate to say something, I don't know, maybe it's not appropriate to say something [...] because then I would feel like it's flexible enough already. I can already participate online. So why? Somehow I would feel kind of guilty then, too. [...] And if I then add the international aspect plus the online aspect, i.e. I'm only participating online and from somewhere else, I might be quicker to think, okay, I'd better hold back, because there's a system that's already kind of established.” (B4/GII1, Pos. 117-120)

In her reflection, the interviewee describes a sense of “guilt” (B4/GII1, Pos. 117) associated with active participation as an online student, given the considerable effort already invested by lecturers and peers to enable online participation in the first place. For students from abroad

participating online, unfamiliarity with the host country’s higher education system and its implicit norms can generate additional uncertainty and heightened fear of making mistakes, leading to reluctance to engage actively. The overlap of perceived indebtedness towards peers and lecturers and a felt lack of competence to navigate the higher education system intensifies these students’ perceived outsider positioning.

These role asymmetries are further reinforced through lecturers’ verbal and non-verbal practices. One interviewee reports that lecturers’ explicit differentiation in their modes of address contributes to feelings of separation and inequality (B3/GGI). Referring to online students as “those people online” (B3/GGI, Pos. 18) assigns them a negatively connoted status, which affects how they perceive their positioning in the classroom. In addition, non-verbal cues, such as sustained eye contact with on-campus students, prioritising their contributions in verbal turn-taking, and physically orienting towards the on-campus audience while turning away from the camera, further exacerbate perceptions of diminished visibility among online participants, as another interviewee argues (B4/GII1). Accordingly, these interaction practices contribute to stabilising unequal role distributions.

Participatory Role Assignment

To counteract role asymmetries, the lecturer is advised to act as a mediator between on-campus and online participants to ensure equal participation opportunities for both (B4/GII1). In that, the lecturer should mediate between online and on-campus participants by addressing the different participant groups both verbally, through inclusionary questioning, and non-verbally, through balanced eye contact and engagement with the camera.

The students, on the other hand, feel compelled to take collective responsibility by positioning themselves as co-creators of the International Synchronous Hybrid Learning Space. This includes always arriving early to the sessions and supporting the lecturer in setting up the media technology (B2/GGI), helping each other when media-related challenges arise (B2/GGI), collectively paying attention to the time in translocal interactions (B4/GII1), and actively initiating and moderating interactions with the online participants by drawing attention those online who wish to contribute (B2/GGI; B4/GII1; B5/GII2).

Conclusion

Overall, this study reveals students’ perceived challenges related to the social dimension of International Synchronous Hybrid Learning Spaces, which arise from the intersection of participants’ internationality and different modes of participation. Across the four analytical aspects of *group characteristics*, *didactically promoted interaction*, *roles*, and *relationships*, these factors act as mutually reinforcing social amplifiers, intensifying social frictions.

On the one hand, the findings of this study indicate that the permanent online participation of some students, driven by the international nature of the setting, can foster feelings of alienation within the group and reinforce the outsider positioning of online participants, who feel they lack permission to engage actively in class. While prior research on Synchronous Hybrid Learning Spaces (Rodríguez et al., 2022; Usher & HersHKovitz, 2023; Zydney et al.,

2019) and online learning has already identified similar dynamics of belonging and role distribution, this study further underscores the outsider status of online participants as being particularly pronounced for students from abroad as these struggle to grasp the logic of the host higher education system and, as a result, withdraw from active participation (Yu et al., 2022). In this sense, participation modes function as a central structuring principle of social interaction in International Synchronous Hybrid Learning Spaces, shaping students' sense of legitimacy to engage in the learning space. This is exacerbated by the lecturers' divisive verbal and non-verbal communication towards online and on-campus participants, thereby reinforcing the disadvantaged position of online participants from abroad. Consequently, lecturers need to be particularly sensitive to the complex interplay of participation modes and students' internationality. They should assume a mediating role between the participant groups, which is not only organisational, but inherently social, as lecturers' addressing practices actively shape role configurations and participation legitimacy in International Synchronous Hybrid Learning Spaces. Accordingly, lecturers require targeted training (Gudoniene et al., 2025; Zydney et al., 2019) that extends beyond technical competence. Instead, such training measures should sensitise lecturers to the social pitfalls of International Synchronous Hybrid Learning Spaces and equip them with strategies to mitigate related risks, including inclusive verbal and non-verbal addressing of participants across different modes and the deliberate facilitation of informal exchange, e.g., through encouraging students to build networks beyond class-time or creating informal translocal spaces during breaks by opening breakout sessions (Ottenheim et al., 2025).

On the one hand, the overlap between structural heterogeneity stemming from country-specific differences in access to digital infrastructure and the heterogeneous academic work cultures shaped by students' internationality affects the perceived quality of collaboration in International Synchronous Hybrid Learning Spaces. Rather than remaining background conditions, this heterogeneity becomes socially consequential, shaping students' interactional opportunities and experiences of belonging. To address these challenges, the findings suggest – consistent with previous studies on Synchronous Hybrid Learning Spaces (Baker & Spencely, 2023; Bell et al., 2014) – the use of easy-to-use media and the provision of training to familiarise students with the digital tools employed. At the managerial level, this presupposes institutional investment in the development of a robust technological infrastructure (Gudoniene et al., 2025; Keulemans et al., 2025). Beyond technical solutions, however, lecturers should address the intersection of different participation modes and students' internationality by establishing spaces for reflection on the challenges that arise throughout the semester, allowing students to exchange experiences and dialogically develop solutions to address them.

This points to another finding related to the increased demands placed on students in International Synchronous Hybrid Learning Spaces resulting from the translocal design of collaboration: Beyond engaging with course content and participating in international dialogue, students must simultaneously navigate organisational and technological challenges, often leading to overwhelm, especially in a learning space where part of the students participates online permanently due to the international nature of the setting. To overcome these difficulties, a shared sense of responsibility for the success of translocal interactions must be promoted, rather than relying solely on top-down enforcement of group norms (Jean-Francois et al., 2025; Zydney et al., 2020). Instead, the results emphasise the value of explicitly negotiating

behavioural expectations and collaboration rules together to mitigate challenges arising from different participation modes and international heterogeneity. However, this is time-intensive and requires dedicated curriculum space (Keulemans et al., 2025). Where this is limited, shifting content delivery outside class time through a flipped classroom approach (Gudoniene et al., 2025), can free synchronous sessions for interaction, norm negotiation, and transparent communication, albeit at the cost of increased demands on students’ self-regulation.

Ultimately, the application of the derived design implications – namely, inclusive practices to support equitable participation and foster shared responsibility for participation, the intentional design of opportunities for informal exchange, and participatory role allocation – shows that design decisions in International Synchronous Hybrid Learning Spaces must explicitly aim to de-amplify the social challenges intensified by the intersection of internationality and participation modes. This entails that higher education lecturers explicitly recognise students’ diverse backgrounds and individual needs, build trust, and create supportive learning environments in which all students, regardless of their participation mode, feel seen and actively engaged. Such an approach can foster social presence, enabling students to experience closeness and connectedness – an aspect recognised as critical to the success of Synchronous Hybrid Learning Spaces (Wagner et al., 2025), and particularly salient in International Synchronous Hybrid Learning Spaces marked by multimodal participation and students’ heterogeneity. Accordingly, future research should examine the extent to which the identified design implications effectively mitigate social challenges and enhance social presence for diverse students.

That said, the study is subject to limitations: The investigated International Synchronous Hybrid Learning Space was conducted in a well-equipped classroom, which may have shaped students’ perceptions, as media-related disruptions occurred only to a limited extent. Moreover, the setting was a student-centred seminar, limiting the transferability of the findings to less student-centred contexts. The small sample size, with perspectives predominantly from on-campus participation, may have limited insights into the experiences of online students. Additionally, interpretative biases may have arisen from cultural differences between participants and researchers, as well as from language barriers. Possible distortions arising from power dynamics may have resulted from the second author’s dual role as both seminar lecturer and researcher. To mitigate this, the other two authors, who had no teaching responsibilities in this course, carried out the data collection. Finally, reliance on guided interviews may not fully capture participants’ pre-reflective knowledge of International Synchronous Hybrid Learning Spaces, suggesting the value of complementary methods, such as mapping-based approaches, in future research (Löw & Marguin, 2022).

Nevertheless, this study provides an empirically grounded basis for identifying the social challenges students perceive in International Synchronous Hybrid Learning Spaces and offers insights into how these challenges can be addressed design-wise. In doing so, the study advances existing scholarship by demonstrating how social challenges emerge from the intersection of international diversity and multimodal participation, leading to amplified social challenges that structure engagement, roles, and relationships in International Synchronous Hybrid Learning Spaces, a phenomenon that has not yet been systematically documented in the literature.

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Declaration of Interest

All authors declare that they have no conflicts of interest.

Author Contributions

CH: Author, Translator, Conceptualization, Methodology, Revision, Editing, Writing; RE: Data analysis, Conceptualization, Revision, Editing; LB: Methodology, Data analysis

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Appendix – List of Categories

#	Category	Description	Example quote
I. Social challenges in the International Synchronous Hybrid Learning Space			
1. Group characteristics: <i>Structural heterogeneity and linguistic and cultural frictions</i>			
1.1	Different opportunities for participation due to unequal levels of media competencies	In the International Synchronous Hybrid Learning Space, some students are unable to participate as effectively as others due to unequal levels of media competencies (abilities, skills, and readiness to use digital media).	“Yes, I didn’t experience this personally, but it happens sometimes that some colleagues expressed very directly that, for instance, the example I was talking about before, ‘I’m feeling overwhelming about using these tools.’ [...] But for me, it was like a game. You know, I can try, and [...] there will not be negative consequences.” (B2/GGI, Pos. 66)
1.2	Unequal access due to structural heterogeneity in digital infrastructure	In the International Synchronous Hybrid Learning Space, some students in the group who join online from abroad are unable to access or participate effectively due to structural heterogeneity in digital infrastructure.	“I remember probably last week or last two weeks, there was somebody that is meant to be in our group. I think the person is also from @@country in West Africa##. Because of network, he couldn’t connect, and he couldn’t join. So those are some of the issues.” (B1/GGI, Pos. 37)
1.3	Unequal access due to country-specific media restrictions	In the International Synchronous Hybrid Learning Space, some students joining in online from abroad are unable to access or participate effectively due to country-specific media restrictions.	“I’ve just mentioned that somebody outside @@city, where the learning offer took place## cannot access it. And that is what they have been complaining about. I have somebody from my university telling me the same thing, that those in @@country in West Africa## are not able to access it. So let it be very accessible anywhere, aside from @@city, where the learning offer took place##. Those who are outside Europe should also be able to access it from anywhere.” (B1/GGI, Pos. 53)
1.4	Estrangement due to differing academic working methods	In the International Synchronous Hybrid Learning Space, the group's differing academic	“What I also noticed is that there are completely different ways of working, i.e. that this international aspect means that everyone works completely

#	Category	Description	Example quote
		working methods lead to a sense of estrangement.	differently. Even the group presentations in the first few weeks with the country pods were completely different. And you really noticed that some ways of working or presenting were completely unfamiliar to me, because I would say, that's not how we do it or that's not how I do it.” (B4* ¹ /GII1, Pos. 80)
1.5	Exacerbation of language barriers through different participant modes	The synchronous online and on-campus participation of students in the International Synchronous Hybrid Learning Space and the resulting media-related disruptions exacerbate language barriers.	“And even if there is like a good setting, technical setting, sometimes microphone are not catching the voices from some participants. Especially in some specific zone of the class, when people are talking and they are not near some microphone, you cannot follow. So it's very hard to try to concentrate because, you know, it's an international class. So everyone has different accent and different comprehension of English. So it's very hard to process and to try to stay in the conversation and try to stay active.” (B2/GGI, Pos. 17)
2. Social challenges regarding didactically promoted interaction: <i>Intensified interaction demands and 'quasi-participation'</i>			
2.1	Intensification of the demands through increased striving for translocal design of collaboration	In the International Synchronous Hybrid Learning Space, the more the lecturer strives for a translocal design of collaboration, the greater the demands students experience in didactically promoted interaction.	“So I think, for me, from the beginning of the seminar, which is like the first, second, fourth, fifth, and/ so it has been even those who are online. I think it has been an equal chance of participation because, basically, then there was no really task for us to do. So probably, we'll come. It was like more of presentation. Maybe you have to present your country. Tell us how this is being done in your country, or how is the perspective of this particular thing in your country? So that was from the first, second, and third week. So now that is/ we have to start the comparison now between two countries. So in most cases we have different persons from different

¹ The interview sequences with B4 have been translated from German into English, which is why they are marked with *.

#	Category	Description	Example quote
			countries. So you have to talk about the concepts in your country. And in most cases, we found out that you have to interact with maybe somebody from/ okay, I think the first week we tried this, it went well because we have to/ we just pair/ those who were online were paired together, and those who are on-site were paired together. So there was no really issue with that because it was easier for people who were together to work together. But probably last week or last week that we started doing/ I think it has to be with our comparative group. So some people in some groups are online. Some people in some groups are on-site. So because we have to interact with them, so you have no other choice. And so okay, let's see what we can because it has to/ it's a group thing. So when it comes to group thing, there's/ you have no other choice than to interact with the/ somebody in your group, even though you are sitting in comparison, but because it's a group thing, somebody's online, somebody's offline, you have to/ for which you do so many things together." (B1/GGI, Pos. 37)
2.2	'Quasi-participation' of online participants	Students in International Synchronous Hybrid Learning Spaces face challenges with didactically promoted interaction when online participants turn off their cameras and microphones during collaboration.	"So, I really did not experience the kind of quasi participation of somebody not being with their camera or physically there. But, yeah, I mean it is important to be willing and motivated and to be focuses on participating. Yeah. In order to work. [...] Well, the one/ in most of the cases, the [*previous] experience that I had, is the not very successful one. The one wherever there is a group that is online, but that has their cameras and microphones off, and that sometimes write something in the chat, but most of the time, the feedback is 'my equipment doesn't work', 'my internet is bad', 'I did not hear the question' or 'I am here.' (laughs) And, like, I don't know, I did not

#	Category	Description	Example quote
			have a very good experience. I did not feel it was very successful, and that it was even better to just have the material for the class online than to be on the call, if there is no/ there is no communication, no interaction with the participants.” (B5/GII2, Pos. 43-53)
3. Social challenges regarding relationships and group cohesion: <i>Alienation and exclusion from informal interaction</i>			
3.1	Alienation towards permanent online participating students from abroad	In the International Synchronous Hybrid Learning Space, the permanent online participation of some students from abroad leads to a feeling of alienation towards them.	“And because they are actually the same people, sometimes those who participate on-site also participate online. Then I see them anyway. But there are also those who participate completely online, perhaps because they are somewhere else at the moment. I recognise them and I already have a picture in my head and a person in my mind associated with that tile and that name. But I'll be honest, I haven't really had any direct interaction, especially with people who participate online all the time and are somewhere else entirely. I got a lot of impressions of them during their presentations, but I don't really have a connection to them as individuals. Of course, I would recognise them if they were here now because I've seen them, but I think it's very different for me compared to the people I've already seen on-site, who are sitting in the seminar with me. (B4*/GII1, Pos. 62-63).
3.2	Unequal access to informal exchange opportunities	In the International Synchronous Hybrid Learning Space, students have unequal access to informal exchange opportunities between on-campus and online participants.	“And I like/ there's still/ it's still not the same experience as being with people, even like in terms of like the breaks that we have when we go to the coffee machine and talk.” (B3/GGI, Pos. 18)

4. Social challenges regarding roles: *Reinforced outsider positioning and unequal role assignment*

#	Category	Description	Example quote
4.1	Outsider positioning of online participants	In the International Synchronous Hybrid Learning Space, online participants are positioned and position themselves as outsiders who do not feel able to participate in class actively, and even think they have no right to do so.	“Sometimes, I feel like I cannot talk because I’m not sure that I have understood all what they said. At the same time, I don’t want to interrupt the whole class to try to ask to repeat again.” (B2/GGI, Pos. 17)
4.2	Reinforced outsider positioning of online participating students from abroad	In the International Synchronous Hybrid Learning Space, the feeling of being an outsider due to online participation is reinforced for students from abroad.	“And if I were participating online, I might also think, yes, that is now/it is more of an exception somehow. I mean, I’m online now, but it’s actually on-site. Maybe it’s not appropriate to say something, I don’t know, maybe it’s not appropriate to say something, to have other options, because then I would feel like it’s flexible enough already. I can already participate online. So why? Somehow I would feel kind of guilty then, too. [...] And if I then add the international aspect plus the online aspect, i.e. I’m only participating online and from somewhere else, I might be quicker to think, okay, I’d better hold back, because there’s a system that’s already kind of established. Then I say something and I tend to come across as opposed to it. And then I want to swim against the tide and say something new. So I would quickly fall into that mindset, to be honest. (B4*/GII1, Pos. 117-120)
4.3	Separation and inequality due to the assignment of roles by the lecturer	In the International Synchronous Hybrid Learning Space, the roles of ‘online participants’ and ‘on-campus participants’ are assigned by the lecturer through verbal and physical communication, which leads to a sense of separation and inequality	“I would still say that there is some like segregation, even like from the linguistic point, like those online, like the phrase “those people online” pops up pretty often. I think that it also can have some effect on like how people feel about how about their position in the classroom.” (B3/GGI, Pos. 18)

#	Category	Description	Example quote
		between the online and on-campus participants.	
II. Design implications regarding the social challenges in the International Synchronous Hybrid Learning Space			
1. Design implications regarding group characteristics: <i>Applying inclusive practices to support equitable participation</i>			
1.1	Accessible and easy-to-use media selection and use	In the International Synchronous Hybrid Learning Space, media that is easy-to-use and accessible from other countries should be used and selected.	“So it should be accessible. It should be easy to use. You know, most of us in developing countries are not very used to all these digital tools. So it is when we get here that we are just trying to adapt to, okay, this is how to navigate it. This is how and what to do in this scenario. So just make it accessible and easy to use. I think these are important things, for me. (B1/GGI, Pos. 51)
1.2	Media training for students	In the International Synchronous Hybrid Learning Space, it should be ensured that students are able to use the selected digital media, for example, by offering ad-hoc introductions and providing students with formal extracurricular training.	“like we had a session in digital hybrid settings. We had an actual/ which was pretty interesting because we had an actual session on hybrid learning, where we actually/ surprisingly, actually learned how to use the board, how to turn on and off the digital ink, the thing that saved the @name of professor@ class many times because it was such/ like it’s always the issue. I think it could be like/ there could be like extra sessions in using those digital tools. Like we’re going to learn how to work with Mural and use those like synthetical approaches, where you start with something very small, like tutorials that they can have in games, where you like/ you are thrown into the game, but you learn to do the basic stuff by actually having some tasks which you need to perform” (B3/GGI, Pos. 67)
1.3	Spaces for transparent communication	In the International Synchronous Hybrid Learning Space, students should be provided with opportunities for	“it’s a lot about communication and creating transparency, creating space to talk about things when they come up, or even setting a framework for that in the setting. So, setting a frame where we talk

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		transparent communication about the challenges arising from the internationality of the setting and for joint reflection on how these challenges can be overcome.	about it or reflect on such things together, also with the online people, I can imagine that for me, that would simply lead to completely different results, which would then make the seminar not completely different, but perhaps optimise the whole thing a bit, plus that maybe there would be a bit more responsibility, that this personal responsibility would arise in the first place (B4*/GII1, Pos. 120-122)
2. Design implications regarding didactically promoted interaction: <i>Facilitating engagement and jointly developing a sense of responsibility for participation</i>			
2.1	Brief summaries for online participants	In the International Synchronous Hybrid Learning Space, online participants should be provided with brief summaries of what has just happened and discussed on campus.	“So sometimes it’s very good when the professor or other participant does like a summary of the intervention or sometimes stop and like try to make a summary of the discussion.” (B2/GGI, Pos. 17)
2.2	Direct addressing of online participants	In the International Synchronous Hybrid Learning Space, online participants should be directly addressed to activate them.	“and also maybe to, as a moderator, ask more, like, partly online and then (laughing) offline group. So that they are all equally participating in the debate.” (B5/GII2, Pos. 41) “But maybe it's the big groups to have a more concrete questioning in the direction of the online group, in order to, like, motive it to be more active.” (B5/GII2, Pos. 45)
2.3	Granting sufficient time	In the International Synchronous Hybrid Learning Space, sufficient time should be granted to enable students to organise themselves in translocal interactions.	“I would also say like that the danger zone, as it always is, is when the online participants must interact with offline participants, especially in like tasks, group tasks, which are designed for interaction. For example, we had like five minutes to come up with some ideas. And I was attending online, and I was working with, I think, @student 2@ and @student 3@. And it took them like two

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			minutes to kind of to connect to me to like to start the laptop, to connect to me, to leave the room because it was too noisy, to find the room. And we basically had like one minute and a half to come up with the list and brainstorm ideas. So I think there should also be some flexibility time and timeframes for those kinds of exercises because it's either like/ only design activities in a way that only online participants interact with online participants.” (B3/GGI, Pos. 23)
2.4	Local on-campus expansion options	In the International Synchronous Hybrid Learning Space, on-campus local expansion options should be provided to support translocal interactions.	“So something should be done like/ I remember that there is like a small room in the main classroom. So maybe it could be like there could be some extra space in that one to people/ for people to just go there or just connect so that it's not as noisy as it usually is in the classroom, or you have a specific classroom which is always kind of free for the activity or just/ I don't know/ to book one classroom so that people can just leave and design a stage where you can say, you have 1 minute to kind of move, and then we'll start.” (B3/GGI, Pos. 23)
2.5	Bottom-up norms	group In the International Synchronous Hybrid Learning Space, group norms should be negotiated and established from the bottom up in the form of a code of conduct to promote a sense of responsibility for one another in translocal interactions.	“It is also very good that all participants/ as we set some rules at the start of the course, everyone is really pay attention to online participants. So sometimes happen that maybe someone raise his hand or do something like that, and some participant in present notice this and tell like, professor, someone want to talk, or this is very good and creates like a safe environment and where you know that everyone pay attention to the others.” (B2/GGI, Pos. 17)
3. Design implications regarding relationships: <i>Designing informal exchange opportunities</i>			
3.1	Informal exchange opportunities	In the International Synchronous Hybrid Learning Space, translocal	“If people want, they can/ like we've talked about those informal moments between the sessions where we share like

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		opportunities for interaction during breaks should be created to facilitate informal exchanges among all students.	a cup of coffee or a smoke. You can do just as that in like online as well. You can just tell people, now you can bring coffee. We're going to have our own breakout room just for us, and we can vibe together.” (B3/GGI, Pos. 49)
4. Design implications regarding roles: <i>Participatory role assignment</i>			
4.1	Lecturer as mediator	In the International Synchronous Hybrid Learning Space, lecturers should serve as mediators between on-campus and online participants to ensure equal opportunities for participation on both sides.	“But I also think it's important to include both spaces, so to speak, and to allow both spaces to participate in the same way, whether that's by mixing them together or by constantly referring back to the online participants, asking them if there's anything else. Because I think the students are more likely to forget the online participants than the lecturers. And I think that's where the important role lies, in creating this connection between these two spaces, both for the students and for the seminar as a whole. [...] Hm. Maybe by creating contact, for example by forming more mixed groups, mediating between, okay, we're going to form a group with online participants, but also with on-site participants, we'll mix it up a bit more, so even if it's already mixed at some point, maybe this mediation between, exactly, the people who are always online and those who are on-site, so that you can maybe, yes, exchange ideas with each other a bit.” (B4*/GII1, Pos. 72-74)
4.2	Students as co-creators	In the International Synchronous Hybrid Learning Space, students should be allowed to take on the role of co-creators, for example, by helping to initiate and moderate interactions with online participants, paying attention to them, and letting the lecturer and	“someone can always signalise the others if someone online wants to say something or if is on muted, and is trying to communicate with us, to feel more physically together, even though they are online.” (B5/GII2, Pos. 17)

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		other students know when an online participant wants to contribute.	