Moving Beyond Mobility: Lessons Learned from a Project-Based Virtual International, Intercultural, and Interdisciplinary Collaboration

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Abstract

Der Beitrag beschäftigt sich mit dem Projekt "Collaborative International, Intercultural & Interdisciplinary Learning (COIIIL)" zwischen der Technische Universität Dresden (GER), Stellenbosch University (ZAF), Shiraz University (IRN) und Bucknell University (USA). Das Projekt bietet Einblicke in die Entwicklung von Mobilität als einzige oder primäre Form der Internationalisierung in Hochschulen und Universitäten. Der Beitrag stellt Good Practices der Zusammenarbeit innerhalb und zwischen den Institutionen dar und zeigt, wie eine interdisziplinäre Community of Practice für die digitale Internationalisierung der beteiligten Einrichtungen aufgebaut wurde. Es werden systematisch die aus dieser Zusammenarbeit gewonnen Erkenntnisse erörtert und weitere allgemeine Maßnahmen skizziert, die zu einer positiven Entwicklung der internationalen Zusammenarbeit im Hochschulbereich beitragen. Abschließend werden Schlussfolgerungen in Bezug auf die Hochschulpraxis und die Ausrichtung zukünftiger Forschung gezogen.

The paper focuses on the project "Collaborative International, Intercultural & Interdisciplinary Learning (COIIIL)" of the partner institutions Technische Universität Dresden (GER), Stellenbosch University (ZAF), Shiraz University (IRN), and Bucknell University (USA). The project offers crucial insights into moving beyond mobility as the sole or primary mode of internationalization toward an international campus. The paper presents good intra- and inter-institutional collaboration practices and demonstrates how an interdisciplinary community of practice for digital internationalization was established between the partners. It systematically discusses the 'lessons learned' from this collaboration and outlines further general measures contributing to the positive development of international cooperation in academia. Finally, conclusions are drawn regarding the practical implications and direction for future research.

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1. Introduction: Project Background

The ability to work collaboratively in international virtual teams is a crucial skill in the 21st century [1]. In this respect, the TUD COIIIL (Collaborative International, Intercultural & Interdisciplinary Learning) project was created as part of the International Virtual Academic Collaboration (IVAC, 2021) funding program, one of the three DAAD programs designed to strengthen and expand the international virtual collaboration of German universities [3]. IVAC pursued the goals of making study programs at German universities and their foreign collaborating counterparts more flexible while providing students and academic staff with expanded access to international higher education. IVAC also promoted the application of digital tools and concepts in cooperation between the partnering higher education institutions Technische Universität Dresden (Germany), Stellenbosch University (South Africa), Shiraz University (Iran), and Bucknell University (USA).

The project TUDCOIIIL offers crucial insights into moving beyond mobility as the sole or primary mode of internationalization toward a truly international campus. However, the project goes beyond pure teaching cooperation and addresses all fields of action of the internationalization strategy at a decentralized and central level. Additionally, the project's objectives are also linked to the goals of the TU Dresden's e-learning strategy and pursuing goals of the national Excellence Initiative.

Building on the previous intra- and inter-institutional collaboration, an interdisciplinary and intercultural community of practice for internationalization@home [2] and digital internationalization [4] was established during the funding period. This community of practice regularly exchanged information on all critical aspects of the topic, and documents, discussed challenges and opportunities, collected experiences and good practices, and shared expertise between the partner universities in the proposal procedures and at the project-based conferences. In addition, special digital exchange formats fostered mutual comprehension and learning in the following three tracks:

1. Academic topics and Virtual Collaborative Learning (VCL) framework;
2. Didactics of interdisciplinary, international, and virtual teaching;
3. Internationalization and development of intercultural competencies.

Academic topics and VCL framework: Virtual Collaborative Learning (VCL) has been used as a teaching format at the Chair of Business Information Systems, particularly Information Management, at the TU Dresden for over 20 years, in addition to traditional face-to-face learning processes and to transfer group learning processes into the virtual space. Small interdisciplinary and mostly international mixed groups of students work on complex, real-world problems based on specially prepared didactic case studies within 4-8 weeks in the VCL project. Figure 1 shows the general sequence of a VCL module.
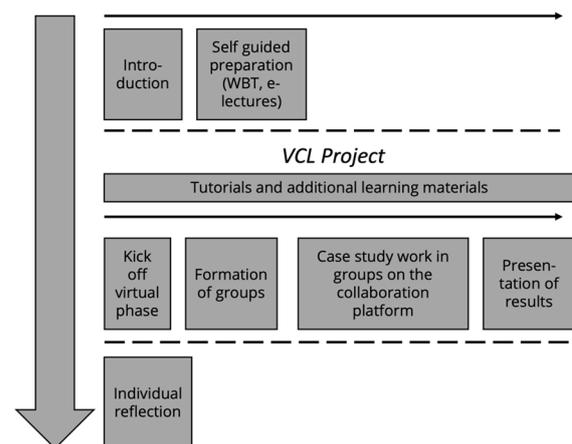

Figure 1: Sequence of VCL modules [5]

The group work in VCL modules is characterized by a high degree of self-organization and responsibility for the results and the adoption of various roles. During their group work, participants are supervised by specially qualified student e-tutors. The e-tutors are an integral part of the group and act as contact persons for all questions without being involved in solving the task. The groups' communication and documentation are carried out via customized collaboration platforms. Microsoft Teams™ is widely accepted and used as a standard collaboration software in VCL modules.

The VCL framework contributes to developing learners' 21st-century skills through the pro-

ject format, collaboration, and specially pre-pared case studies. In particular, the focus is on enhancing virtual collaboration skills, a key competence for networked teamwork in professional life. The VCL framework offers teachers scientifically well-researched and extensively field-tested design patterns with numerous best practices for designing and developing virtual group work [5]. Teachers and e-tutors can access learner data in VCL settings regarding social learning analytics. This is enabled by analyzing the various tools and functions in the MS Teams™ environment, as shown in Figure 2.
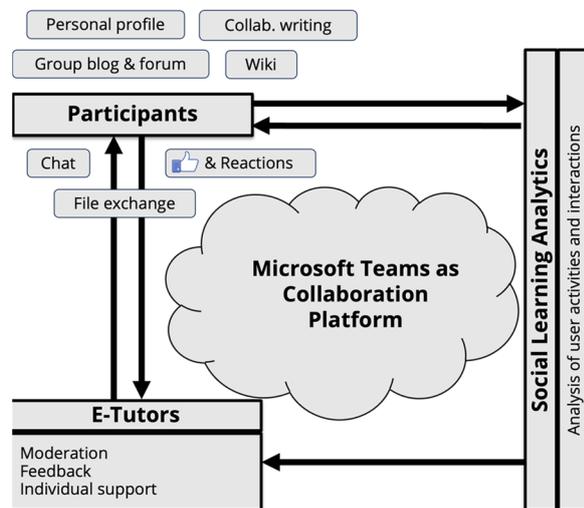

Figure 2: Social Learning Analytics on MS Teams™

This track incorporated findings from a collaboration between students at Shiraz University and TU Dresden, as well as findings from the framework transfer to students and teachers at Bucknell University.

Didactics of interdisciplinary, international, and virtual teaching: In track 2, the experiences of successful or unsuccessful interdisciplinary and intercultural cooperation were collected. These insights helped to identify and analyze best practices and systematically document them. The focus of the consideration was also the expansion of the international orientation of TU Dresden in terms of e-learning and internationalization activities.

Internationalization and development of Intercultural competencies: This activity built on Stellenbosch University's and TU Dresden's expertise in fostering intercultural understanding, supporting global learning outcomes in academic and co-curricular programs, and creating learning opportunities for students and staff from diverse backgrounds through internationalization initiatives.

Based on this, joint offers were planned and theoretically substantiated. Developing and establishing new formats is always built on previous experience to systematically tackle existing and new challenges. For example, this showed how difficult it could be to overcome different academic calendars – even in a digital context – for joint courses.
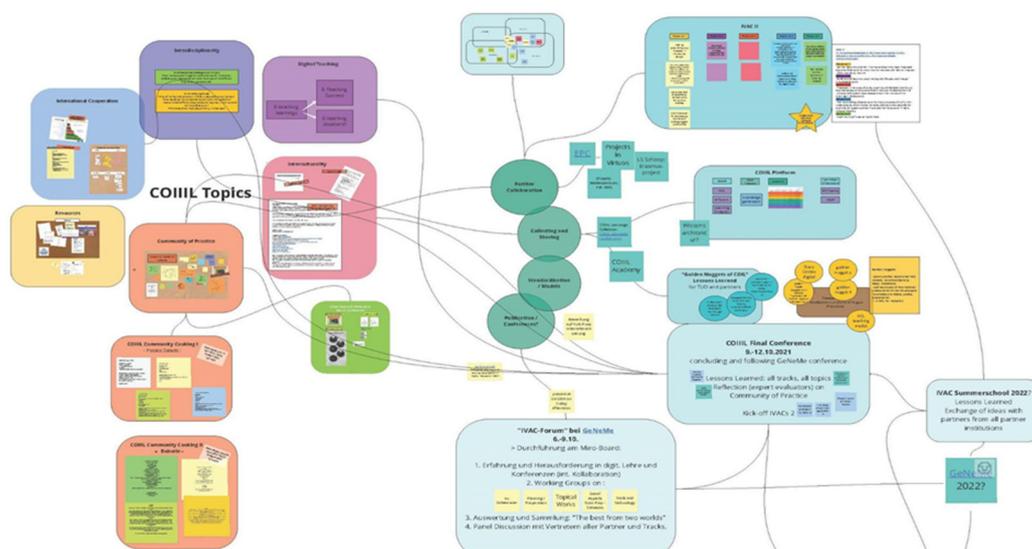

Figure 3: Screenshot of the central Miro Board™

(Digital) Collaboration: In the three tracks, the expert groups developed their own virtual, hybrid, and physical meeting culture in MS Teams™ and on Miro Board™ and fostered exchange within the group and with further experts in their respective fields. A discussion of ideas and experience was furthermore upheld between the three groups and culminated in a conference/ workshop at the end of the project phase to reflect on learnings, develop further joint projects and decide on the next expected steps. Figure 3 shows the Miro Board™, which was used as the central collaboration platform for exchanging, planning, co-creating, and documenting ideas and results.

The present paper systematically discusses the 'lessons learned' from this collaboration and outlines further general measures contributing to the positive development of international academic cooperation. Finally, conclusions are drawn regarding the practical implications and direction for future research on international university projects.

2. Lessons learned

All partners have not only developed their international exposure in teaching in the past semesters but also learned that international digital cooperation bears a considerable potential to increase the quality and intensity of partnerships – whether within one's own institution or internationally. The following reflections include the experiences of academic staff and students on teaching and learning and lessons learned from capacity-building activities that help increase digital collaboration and expand international higher education partnerships simultaneously.

It is evident that the intensity, timing, and depth of any cooperation changes in the digital realm and, as we learned, can easily be improved. This goes beyond creating or keeping teaching options within a crisis such as the recent pandemic: Internationality, interdisciplinarity, and interculturality do not only carry on as intended, but new opportunities can be created by and converge in digital collaboration processes and virtual spaces.

There are certainly also lessons to be learned on intercultural pitfalls in digital collaborations and on general limitations of these formats that keep us from reaching some goals or at least make them challenging to achieve.

It is crucial to consider varying degrees of participants' digital readiness and address them at the beginning to improve them through training during the overall process. Furthermore, the peculiarities of the virtual space and its effects, such as participants missing certain social clues, need to be cushioned by appropriate activities to get to know each other, especially at the beginning of the collaboration. Careful coordination of the activities is required to find the right balance and the proper activities fitting the composition of the consortium in terms of demographic, educational, and cultural backgrounds.

A concrete dissemination plan should be included to ensure broad visibility and thus enable external participation from the beginning. Furthermore, to ensure the sustainable application of the project's results, knowledge preservation and easily accessible resources even after the project's lifetime are of paramount importance. Lastly, regular quality assurance processes should be implemented independently from the project management to ensure we are doing what we intend to do.

Our reflection will draw on three key insights from the project:

1. Didactics of Virtual Teaching Collaboration
2. Internationalization
3. Evaluation of the Communities of Practice

Didactics of Virtual Teaching Collaboration: The project was firmly based on international collaboration, which was perceived as beneficial for all. Since it fostered multiple opportunities to increase cooperation between the different universities, the participating partners stated that the project helped them to overcome the crisis.

The transfer to the new context showed that the already existing didactic design patterns promote the transfer of VCL principles to new contexts. During this transfer and the subsequent analysis, however, it also became apparent that crucial aspects of the patterns were

outdated and that it was necessary to extend them. Therefore, the patterns were revised, and the new knowledge was integrated.

The didactic design highlighted the importance of an intense preparation phase. It is necessary to prepare all partners for the exchange, e.g., by using digital tools and inclusion during the proposal preparation. The project also showed that international exchange and collaboration need time to evolve. Too many different topics and activities can hinder this development in a short time. Reflections bear crucial potential for further development and should be given time accordingly. Also, the development of collaborative courses is a process that requires intense time and resources. The project's progress clearly showed that more and more synergies could be found as time passed.

From a didactical point of view, the virtual collaboration showed the importance of possibilities for virtual social gatherings for all participants. The tool Gather.town™, used for this purpose, was praised for its social connection features, while MS Teams™ was just understood as a 'work platform' (see figure 4). The spatial chat tool and its communication possibilities had a motivating effect on virtual collaboration, which should be considered in future settings. The project also showed the importance of integrating additional practical components. Virtual collaboration is more than talking, listening, and writing. More practical activities should be included in future projects.
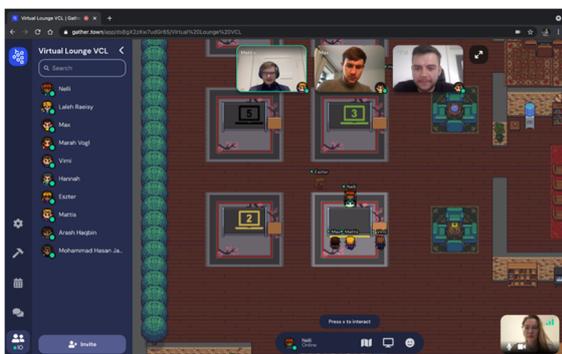

Figure 4: Networking session with students via Gather.town™ (permissions granted) [6]

The project also showed that social learning analytics are integral to analyzing socialized learning in a collaborative, intercultural, and interdisciplinary environment. The various possible analytics based on the dataset of MS 365™ were processed and iteratively refined. The visualization of analyzed user data helped the e-tutors to effectively accompany the collaborative work. Furthermore, data were used to inform the participants about their collaborative performance. In addition, text mining methods were combined with linguistic evaluation approaches to identify much-discussed main topics, emerging controversies, conflicts, and the general group atmosphere. The analysis results helped e-tutors react quickly to conflicts and provided daily overviews of the group atmosphere.

Internationalization: With the COIIIL framework, we could not only bridge the apparent gap in various ways but quite literally move beyond mobility:

During the pandemic, going virtual has helped maintain our collaboration with global partners. In many cases, it has led to working closely on a much more regular basis – even without physical meetings – than annual partner meetings did before, not to forget the time, money, and CO_2 saved by not visiting as much.

Digital internationalization also provided us with a wide range of international and intercultural learning, which does not apply only to students. Through virtual means, we were able to support international experience for diverse members of our universities, overcoming barriers we have been working on for years. Working across status groups and institutions was much more accessible. Our project's initiatives merged three perspectives: teaching, internationalization, and pedagogy. All objectives assume collaborating eye to eye, creating an inclusive and participatory process across traditional hierarchies, bottom-up rather than top-down. This, in turn, led to a broader range of results, more opportunities, and creativity.

However, our experience shows that creating this kind of partnership needs concentrated effort from the beginning, involving all sides in the application process and financial planning, rather than moving to a shared digital whiteboard once the project officially 'starts,' which will significantly contribute to developing common ownership of the project. Furthermore,

maintaining a lively community of practice is not an addition but at the heart of the project since it creates an alliance across distances. An online community also shows real and perceived borders, such as questions of national data protection or the prohibition of using specific digital tools and platforms, which can always threaten internationality and creativity.

Using virtual internationalization sustainably and strategically can afford us a whole new outlook and create the type of visibility and transparency and thus tackle some of the longstanding challenges of internationalization, such as questions of decentralized or even mainstreamed internationalization and the resulting future role and responsibilities of (central) International Offices at universities. Looking at this question through the lens of digital internationalization, rather than asking where it should start and end, we might consider the potential of a central unit collecting, sharing, and growing information and programs as well as creating knowledge transfer and thus contributing to a better understanding and support of an institution's internationalization, bringing together bottom-up initiatives with top-down strategic developments. Lastly, professional coordination of digital initiatives from the proposal process onwards may create opportunities that would not be viable considering traditional resources of time and finances.

Evaluation of the Communities of Practice: The communities of practice were evaluated in a series of formative and summative assessment procedures [7]. As presented in figure 5, the methodology comprised several instruments of data collection: participant observation in the COIIIL project space, a short survey during the project meetings, three focus group discussions with project representatives from the main participating universities (TU Dresden, Stellenbosch University, and Shiraz University), and four semi-structured individual interviews with participants who held different positions within the VCL module (instructors, e-tutors, and participants). The data were consequently subjected to qualitative content analysis. Based on the findings, the evaluators provided feedback on the overall progress of the project and the VCLs as its distinct part. It concerned (a) the needs and requirements of

different target groups in the project, (b) the connection between the different tracks, (c) modes of communication and interaction within the project, and (d) discussion about the stakeholders' different perspectives on interculturality.
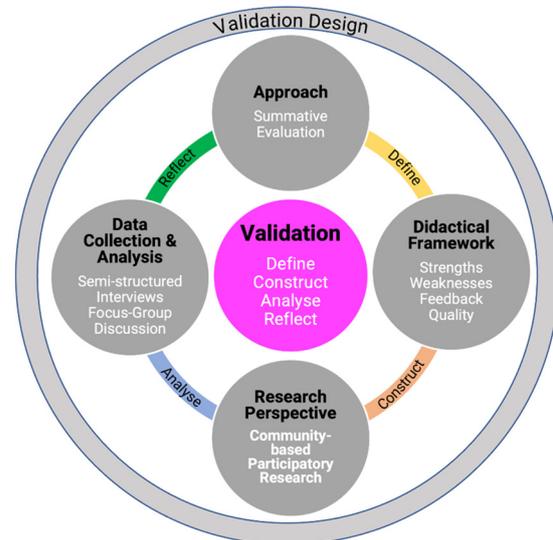

Figure 5: Validation framework for evaluating communities of practice (CC BY 4.0) [7]

The evaluation highlighted the following findings. First, the virtual collaboration enabled a colloquial exchange and helped the participants to develop intercultural communication competencies. However, the participants also experienced numerous challenges, e.g., in dealing with different role expectations and academic hierarchies. As a basic condition and requirement for such projects, it needs to be ensured that all participants have equal access to the learning community, infrastructure, and resources.

Second, online collaboration was understood as a 'cost- and time-effective' way for simultaneous conversation and instant exchange of ideas on digital platforms (MS Teams™, Miro Board™, Gather.town™). Yet a decision for or against a digital tool is not a purely technical question. Its conscious selection and purposeful use are of vital importance since it supports the development of communities of practice in particular: e.g., Gather.town™ "to create closer relationship to the members in general, the community members" and MS Teams™ "to be used for work" and beneficial for group discussion (group discussion). Every decision about

digital tools is also related to possible experiences of inclusion or exclusion covered by the umbrella term 'digital divide,' which reflects the potential inequalities ensuing from demographic, social, economic, and cultural factors as well as personal attributes (e.g., 'digital natives' vs. 'digital immigrants' as an age-related distinction in terms of tech-savviness and media literacy). This issue also ties in with the recognition that the use of computer-mediated communication and digital tools in teaching and learning is anything but culture-neutral (just as the design and the specific features these tools contain are also culture-specific) and subliminal power-related biases that result from there have been one further critical finding.

Third, international collaboration was commonly experienced as enriching and 'future-oriented'. Participants expressed their awe at the tangible prospects of cooperating across national borders and between different geographical areas: "to see it actually work [at] that level [was illuminating]" (group discussion). The pitfalls of internationality (understood as distinct from 'national cultures') included the necessity to account for different time zones, to synchronize the academic calendars (foremost in the VCL modules), and to reconcile divergent global agendas (especially concerning the 'Global North' vs. 'Global South' issue).

Fourth, the participants also emphasized the interdisciplinary aspects of collaboration. Despite the challenges of differing discipline-specific terminologies, methodologies, and perspectives (e.g., regarding 'interculturality' as one of the common concerns), the project had largely contributed to the participant's professional and personal growth due to the cross-disciplinary peer exchange and the broadening of outlook it entailed.

Fifth, the participants also benefited from the project in terms of intercultural learning. For one thing, the intercultural aspects involved such classical issues as 'country-specific' time regimes or preferred patterns of communication (e.g., a preference for oral rather than written exchange or spontaneous rather than pre-scheduled meetings). In this regard, the participants cited several widespread stereotypes (e.g., "German punctuality" or the alleged "aloofness" of people from Western cultures),

which they, however, often revised in the light of their recent practical experiences. For another thing, intercultural differences likewise stemmed from other domains, such as organizational cultures: while the "startup mentality" dictated, for instance, the use of cell phone messages/ voicemail, this stood in stark opposition to the sentiment of "academic propriety," which regarded it as an inappropriate display of urgency and favored emails as a legitimate communication instrument in professional contexts. Furthermore, 'culture' was also frequently related to language issues: the interviewees critically addressed differing levels of linguistic proficiency and sometimes different local accents in English as the lingua franca.

On the whole, these findings show that an effort needs to be made to involve all partners already at an early stage of the project, e.g., in the preparation of the proposal, agreement on the digital platform(s)/ channels of communication, or in the identification of common goals and expectations, thus enabling them to optimally use the (relatively short) time during the project itself: "the only pity for me is that the project is so short because it feels to me that we are picking up momentum now [and] we were able to identify very interestingly, important synergies" (group discussion). Furthermore, future projects would also benefit from cross-institutional and cross-disciplinary blueprints for virtual collaboration, e.g., "models, official models and verified models that can be used by many people around the world" (group discussion).

Additionally, some conclusions could also be drawn regarding the implementation of virtual collaborative learning (VCLs) into study programs: (1) It is important to develop and optimize the selection criteria in terms of language skills and personal motivation; (2) Sufficient time and resources need to be allocated for multi-level team building to foster interpersonal communication; (3) Regarding their foremost binational orientation, VCLs will benefit much from the integration of explicit and implicit intercultural/ area study elements in the course structure (e.g., cultural events/ presentations, reflection on/ discussion of culturally biased communication patterns); (4) Since e-tutors play an important role in the entire col-

laborative project, their actual role needs to distribute individual responsibilities both to them and to the participating students at all times. Specific preparation of e-tutors for their assignment in VCL courses includes fostering their autonomy and creativity in task-solving and supporting ethical decision-making.

3. Conclusions: Moving beyond mobility

In this concluding part of the paper, we discuss and suggest a few best practices, conditions, and requirements for successfully implementing such international projects within and between universities. We consider different levels of implementation: methods and approaches for creating a community of practice, theoretical and academic development, practical recommendations, and future research perspectives.

Creating a community of practice: For successful project-based collaboration in an international consortium, it is important to make strategic decisions early on so that all partners can consciously and committedly support the project's goals. For this purpose, a jointly prepared Mission & Vision Statement should present the consortium's goals and objectives understandably and clearly. Furthermore, it is advisable to discuss and co-create the statement with the entire project consortium and obtain feedback to achieve clarity about the jointly aspired goals from the beginning. Also, in the project's initial phase, regular meetings, e.g., in the format of jour fixes. These meetings are vital for academic sustainability and the possible development of new projects building on the previous one and should take place beyond the project's end date. It is also advisable to define the responsibilities for planning, implementing, and documenting these activities and to set up a leaderboard. Furthermore, it must be regularly ensured that all partners are willing to invest the required time and show commitment to the project. It is especially important to involve all partners in decision-making situations.

To ensure a seamless collaboration of the actors in the project, close attention should be paid to the technical equipment for the implementation of the online activities and a contact point for support for these. Technical requirements and possibilities for online and hybrid communication should be discussed and tested in advance so that mishaps can be reduced to a minimum and the focus can thus be placed more on the project's content during the synchronous activities.

Theoretical and academic development: Regular training should be offered throughout the project for a common ontology and to acquire further competencies for institutional internationalization. Each international collaboration between academic and administrative staff holds unique potentials and challenges that can be exploited through a common knowledge base and competencies. A regular exchange between the actors and experts in the project via status groups also lends itself to this. This ensures a constant flow of information, and indifferences can be uncovered and dealt with at an early stage.

An empirical evaluation of the community of practice should be carried out to make the findings from the collaboration in the project available to future consortia. This way, good experiences can be passed on, and recommendations for hands-on optimization workflow processes in future communities can be made visible. The empirical evaluation should be understood as an iterative process with the goal of continuous improvement. Thus, the creation of lessons learned in an easily reusable format should not be missing. In this regard, the presentation as pedagogical patterns can be an appropriate option.

Practical recommendations: To 'move beyond mobility,' a commitment of all partners to the project is crucial in achieving the desired goals. Regular meetings and proper documentation of such, as well as a results-oriented project management plan which can be easily adapted to new decisions of the consortium, allow fluent processing of the project for the involved actors.

It became evident that differences in the directness of communication in the internationally mixed groups made automated identification of conflicts difficult using social learning analytics. Further research should analyze how other communication cultures influence the use of linguistic evaluation mechanisms and how these could be adapted if necessary.

Future research directions: Furthermore, future studies need to focus on the long-term effects of international, interdisciplinary, and intercultural collaborative virtual projects, especially concerning the quality of communication, further development of partnership, transfer of knowledge, etc. This research could also be extended to different perceptions of time, goals, and ambitions, as well as the use of physical and virtual spaces.

"Moving beyond" has been the main driver for the development of our project. Although intercultural theory and practice, practical and political aspects were considered and promoted in the collaboration, the limitations of this international exchange have become apparent and ask for even more consideration in future collaborations.

At the same time, we must ask ourselves whether only 'the sky is the limit' - or when thinking virtuality, not even that? How will we consider our limited resources of time and personnel, and how will we encounter limits of involvement and creativity?

While we successfully developed a truly international community with learning opportunities for all bottom-up, at what time do we need top-down support, i.e., to bring it all together and further a more strategic development?

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