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From in-person to digital: Lessons learned from tutor training

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Abstract

The diverse study landscape requires flexible and scalable qualification modules for tutors, whose work is central to the quality of teaching and the methodological and didactic development of student teachers. The *TUTORING hybrid* project builds on existing experience and innovative developments in digital higher education. It identifies, analyses and develops hybrid teaching and learning scenarios in an interdisciplinary manner to make them usable across universities. Key milestones include developing a certificate course on OPAL in a flipped classroom format for the initial training of subject tutors; the 'seminar room of horror'; the 360-degree learning environment; and the digital escape room, all of which enable practical, interactive learning. Additionally, the Open Minds course was developed to teach the fundamentals of open educational resources. The developed content was disseminated via platforms such as Twillo, Videocampus Sachsen and YouTube, as well as at national and international conferences. This article also reflects on the challenges and lessons learned during the project period, particularly with regard to the implementation of the formats and adaptation to changing needs.

Die heterogene Studienlandschaft erfordert flexible und skalierbare Qualifizierungsbausteine für Tutor:innen, deren Arbeit eine zentrale Rolle für die Qualität der Lehre und die methodisch-didaktische Entwicklung studentischer Lehrender einnimmt. Das Projekt *TUTORING hybrid* knüpft an bestehende Erfahrungen und innovative Entwicklungen in der digitalen Hochschullehre an, identifiziert hybride Lehr-Lern-Szenarien, analysiert diese didaktisch und entwickelt sie interdisziplinär weiter, um sie universitätsübergreifend nutzbar zu machen. Zu den zentralen Meilensteinen zählen der Aufbau eines Zertifikatskurses auf OPAL als Flipped-Classroom-Format zur Basisqualifizierung von Fachtutor:innen, der „Seminarraum des Schreckens“, die 360-Grad-Lernumgebung sowie der digitale Escape Room, die praxisnahes, interaktives Lernen ermöglichen. Ergänzend wurde der Open-Minds-Kurs entwickelt, der die Grundlagen von Open Educational Resources vermittelt. Die entwickelten Inhalte wurden über Plattformen wie twillo, Videocampus Sachsen und YouTube sowie auf nationalen und internationalen Tagungen sowie Konferenzen verbreitet. Der Beitrag reflektiert zudem Herausforderungen und Learnings aus der Projektlaufzeit, insbesondere die Umsetzung der Formate sowie die Anpassung an veränderte Bedarfe.

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1. Idea and starting point

The starting point is a study landscape characterized by heterogeneous prior knowledge, variable participation conditions, and different didactic requirements. Although existing face-to-face and online offerings (including the OPAL learning platform and virtual learning environments) expanded rapidly during the pandemic, their systematic integration, didactic foundation, and sustainable implementation remain the focus. This creates the need for scalable, flexible qualification modules that combine digital self-study phases with interactive, in-person components and are accessible as Open Educational Resources (OER)/Open Educational Practices (OEP).

Tutorial work plays a central role in the implementation of such flexible qualification approaches. It is an essential component of university didactics and significantly contributes to teaching quality assurance [1]. As links between teachers and students, tutors develop their didactic and communicative skills while supporting the learning processes of their peers [2]. To ensure the long-term quality of student-led teaching formats, universities must provide tutors with targeted methodological and didactic training. Only then can tutorial work reach its full potential [3]. This is where the *TUTORING hybrid* project comes in (see Fig. 1). Building on the experiences of the original *TutorING* project and the developments in digitally supported university teaching within the framework of virTUos. The aim is to systematically identify hybrid teaching and learning scenarios, for example in tutorials, exercises, or practicals, analyze them didactically, and develop them further in an interdisciplinary manner.

Beyond local implementation, the developed formats are to be made available across universities as OER and OEP and at the same time anchored in the HYBRID strategy of the Technical University of Dresden (TUD). In this way, *TUTORING hybrid* contributes to the quality assurance, scaling, and visibility of tutorial-based teaching.

Fig. 1: Logo of TUTORING hybrid

The focus is on developing the skills of teaching staff: working together in an interdisciplinary team, create practical qualification modules that are iteratively tested, adapted, and transferred to the university context. Tutors play a key role in this process. As both students and teachers, they combine perspectives, develop themselves further, and at the same time act as multipliers of innovative teaching ideas.

The basic idea behind *TUTORING hybrid* is therefore to design innovative hybrid scenarios by and with students, to develop them further through university teaching impulses, and to disseminate them as open educational practices.

Milestones and project results

In 2022, which was still marked by the effects of the pandemic, the focus was on establishing digital learning environments. Gather.Town [4] was used to create a virtual teaching and learning environment for basic methodological and didactic training for all subject tutors. This environment was tested for the first time in a hybrid learning setting in the summer semester of 2022 (see Fig. 2).

Fig. 2: Online implementation of basic training in the 2022 summer semester

At the same time, the systematic identification and didactic analysis of innovative teaching and learning scenarios began. A particular highlight was the annual "Best Tutorial Competition," which recognized outstanding teaching concepts developed by student tutors at TUD. These concepts will serve as a flagship for *TUTORING hybrid* in the future (see Fig. 3).


Die Kür zum »Besten Tutorium« des Sommersemesters 2021

Fig. 3: Excerpt from the TUD university journal in the 2021 summer semester

One example of this innovative strength is the peer tutor Johannes Reimer from the Department of Civil Engineering. He reflected on his teaching design and prepared it in a way that makes it accessible and usable for others. Using OBS, he created a teaching video, among other materials, that illustrates the added value of OER and OEP in student teaching. He published these materials via Videocampus Sachsen, YouTube, and the OER platform twillo [5], making them permanently available.

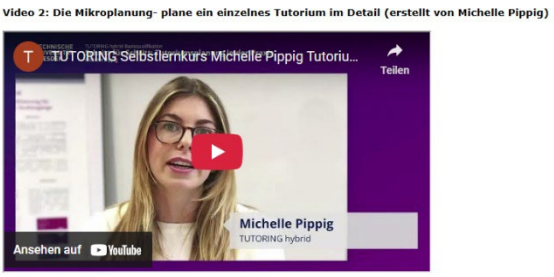

Fig. 4: Instructional video "Tutorial planning in practice" by Michelle Pippig

On this basis, hybrid qualification modules were further developed that firmly integrated the topic of OER/OEP. Workshops and continuing education formats were prepared digitally or conducted in a hybrid format. The result was instructional videos on fundamental topics, such as the role and expectations of tutors, as well as the didactic micro- and macro-planning of tutorials. These videos are also available as open educational resources (see Fig. 4).

2. The certificate course for basic methodological and didactic qualification

The core of *TUTORING hybrid* is the basic qualification for all subject tutors at TU Dresden. It forms the basis for an optimal start in student teaching. In interdisciplinary groups, participants reflect on what it means to be a tutor, learn how to plan an exercise through peer discussion, and receive practical advice from experts.

After the pandemic, the basic qualification for subject tutors was offered in person once again. Meanwhile, Pauline Thamm, a peer tutor from the Department of Teacher Education at Vocational Schools, developed an online certificate course on the OPAL learning platform in 2023. She collaborated closely with the *TUTORING hybrid* team to refine it continuously (see Fig. 5). Having participated in the original basic qualification in Gather.Town, Thamm experienced the strengths and weaknesses of digital learning formats firsthand. Building on these experiences and the team's didactic expertise, they developed a comprehensive self-study course that teaches the basics of tutoring in a student-centered way.

Fig. 5: Insight into the certificate course

Building on this, the *TUTORING hybrid* subproject developed a qualification model that combines digital self-study phases with a two-day face-to-face event. The aim is to offer tutors methodological and didactic training that is flexible, practical, and well-founded. The implementation is based on the flipped class-

room approach [6]. First, the tutors work through digital self-study modules on the OPAL learning platform before participating in the face-to-face qualification event. During this phase, key fundamentals are taught and reinforced through workshops and group exercises.

The flexibility of the format offers particular added value: while the digital content can be worked on anytime, anywhere, the face-to-face sessions create space for exchange, discussion and help consolidate learning. This promotes independent learning and active engagement with the content.

Gamification elements such as storytelling are integrated into individual modules of the course to illustrate didactic concepts. It is also supplemented by instructional videos and best practice examples that facilitate transfer into one's own practice. The course comprises a total of nine modules covering different topics and is also available in English.

The nine modules of the digital course cover key aspects of tutor qualification:

- **Module 1 – Preliminary considerations:** Examination of psychological fundamentals and your own understanding of your role (e.g., moderator, learning coach, etc.). Also covers motivation and activation of students, supplemented by reflection and writing tasks.
- **Module 2 – Teaching and learning spaces:** Practical tips on organizing physical, digital, and hybrid spaces, supported by checklists and technical equipment tips.
- **Module 3 – Planning a tutorial:** Introduction to macro and micro planning using the Didactic Mobile [7], supported by instructional videos and planning tables.
- **Module 4 – Encouraging interaction:** This module presents methodological and didactic approaches to promoting interaction, illustrated by good and bad practice videos, storytelling, and a collaborative wiki.
- **Module 5 – Material collection:** Collection of supplementary resources, checklists, and OER examples; with interactive self-test to review knowledge and raise awareness of open educational practices.
- **Module 6 – Diversity:** Reflection on diversity awareness, equality, and inclusive methods; checklists and tasks to promote diversity-sensitive tutorial design.
- **Module 7 – Overcoming challenges:** Case studies of typical difficult situations in tutorials, which are worked through and reflected on in interactive tasks.
- **Module 8 – Discover the 360° course room:** Exploration of a virtual course room to become familiar with digital teaching and learning settings.
- **Module 9 – Observation:** Introduction to collegial observation; tutors organize peer observations and reflect on their teaching practices with each other for personal development.

By publishing on twillo, the course can be used nationwide in the tutorial network beyond TUD and adapted for other areas and target groups.

Upon completion, participants receive a certificate credited with ECTS points as part of the General Qualification (AQUA), which recognizes the tutors' commitment.

The *TUTORING hybrid* subproject has shown that the quality of hybrid formats is not achieved through the additive integration of digital elements, but rather through the consistent interlinking of self-study, online, and face-to-face phases. Formats in which basic content is worked out in advance in a self-directed manner and applied to authentic tasks in face-to-face sessions are effective. To scale proven processes, compact "micro-recipes" (one-page process maps with time structures, material lists, and links) are recommended, as they enable quick transferability to different subjects.

3. The seminar room of horror

Another milestone of the subproject was the design and testing of the "Seminar Room of Horrors" (SdS) as part of the Hybrid Lab in April 2023. The SdS is based on the "Room of Horrors" concept [8], which is well-established in the fields of medicine and nursing. This concept involves simulation training to raise awareness of patient safety risks. A realistic

room is recreated with specific errors and risks that participants must identify and correct.

Fig. 6: Insight into the SdS as a face-to-face format

This principle has been adapted for tutor qualification: In everyday teaching, especially in hybrid teaching and learning settings, tutors encounter typical challenges that they usually only experience in practice. Originally launched (see Fig. 6) and evaluated as a face-to-face training room, the format was further developed into a 360-degree learning environment in Matterport [9] (see Fig. 7). In this environment, tutors can virtually experience and reflect on common challenges in teaching, such as organizational disruptions, technical issues, and didactic pitfalls, in a realistic setting.

Building on this, the digital escape room was developed in 2025 by Sabrina Hänsel, who contributed both her student perspective and her media technology expertise to the project. Based on experience with the face-to-face classroom and the 360-degree learning environment, the web-based format allows tutors to address typical challenges in teaching in a practical, interactive manner and develop independent solutions.

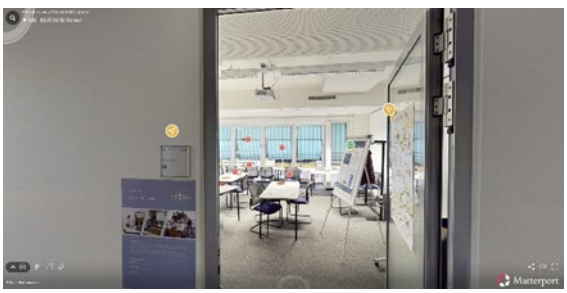

Fig. 7: 360-degree learning environment of the SdS

The escape room combines problem-based learning [10], flow experience [11], and low-threshold testing opportunities within a realistic 3D environment (see Fig. 8). It addresses subject-specific and interdisciplinary skills, such as self-organization, flexibility, stress resilience, and communication.

The format enables location- and time-independent learning, encourages experimentation with new solutions, and allows participants to practice their role as tutors. This represents an innovative approach to qualifications that combines digital flexibility with active, practical learning.

Fig. 8: The current development as a digital escape room

Simulations, such as scenario-based exercises and escape room activities, were particularly valuable in preparing tutors for their first sessions. These simulations allowed tutors to practice roles, interventions, and incident management risk-free.

4. The Open Minds course

Fig. 9: Logo of the VCL course Open Minds

In the summer semester of 2025, the Virtual Collaborative Learning (VCL) course "Open Minds: Discover the possibilities of freely available educational resources for your studies" was conceptually developed and implemented

on OPAL in cooperation with the project partner *sTUDents* (see Fig. 9).

The course teaches participants the basics of OER and OEP. The aim is to qualify participants both in knowledge transfer (understanding concepts, legal frameworks, and licensing) and in practical application (research, use, and creation of their own OER).

Course content at a glance:

- Introduction to the basics and advantages of OER and OEP.
- Legal framework and licensing.
- Research and use of suitable OER in your own subject area.
- Development and publication of your own OER products.

Special features:

- Combination of theoretical input with practice-oriented tasks.
- Focus on sustainable teaching and learning practices and collaborative processes.
- Integration of gamification elements such as storytelling, badges, time pressure, escape rooms, feedback, etc.
- Promotion of creativity through the creation of innovative OER materials.

The course thus provides important impetus for anchoring OER/OEP in higher education teaching and contributes to the promotion of open, sustainable, and future-oriented teaching and learning cultures.

5. The Open Minds course

The licensing of OER teaching materials and familiarization with technical requirements and innovative applications took up a lot of energy and time during the project period. The support of subject matter experts was particularly valuable, for example in introducing new digital formats. In cooperation with the Saxon State Library – Dresden State and University Library (SLUB), the OER symposium was also beneficial. The insights gained there were directly incorporated into the project and made it possible to provide a portfolio of materials via the twillo platform, thus opening it up to the outside world.

Students greatly appreciate this offering, such as the template for peer observation in tutorials, which can be used independently in a peer or buddy format. In addition, students actively contribute by providing materials they have created themselves, such as the contributions by tutor Joceline Mutscher. Although teachers and tutors must first familiarize themselves with the topic of OER/OEP, they recognize its high added value for teaching.

Personnel changes during the project period also posed a challenge. While these changes meant that milestones could not always be worked on continuously, they also brought new perspectives and expertise. The dynamic nature of the project transfer ultimately proved to be a success factor.

Particularly important in this context were the numerous collaborations and public relations activities that students such as Anne Seipel (WHK in the *TUTORING hybrid* project) actively supported. These activities allowed the project to continuously align with the students' needs. Among other things, these collaborations resulted in mentor training offered in both face-to-face and digital formats within the fields of civil engineering and chemistry/food chemistry.

Our project also received a positive response from the nationwide network for tutorial work. The materials developed, particularly the self-study course for all subject tutors, continue to serve as best-practice templates and are still used regardless of the subject area. Due to staffing limitations in tutorial work, these flexible qualification formats are valuable because they are easily accessible to other network partners.

The project's content was published at numerous conferences to disseminate it and raise public awareness. We were actively involved in conferences and meetings such as the German Society for Higher Education Didactics (DGHD), the Society for Media in Science (GMW), the Mobile Learning Conference, the Education and New Developments Conference (END), the European Conference on Games-Based Learning (ECGBL), the Workshop on e-Learning (WeL), the University Future Festival (UFF), TURN, and the Higher Education and Adult Education Research Conference (HUEBF). These conferences resulted in various abstracts, posters, papers, and manuscripts publishing project results for a broad audience. The T*U-*

TORING hybrid team appreciates the recognition of the topics and target groups covered. Twillo also honored one of the materials created as OER of the Month, which further underscores the success and visibility of the devolped content (see Fig. 10).

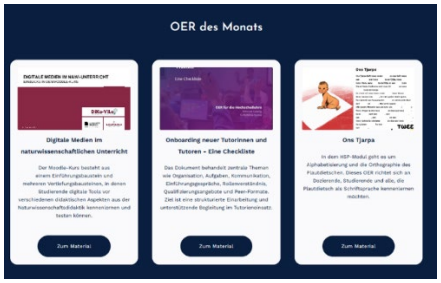

Fig. 10: Onboarding material as OER of the month, screenshot from the twillo website

One challenge arose with the Coffee Corner format established in 2022 (see Fig. 11). The 30-minute online offering via Zoom was initially tested in the morning hours (8:30–9:00 a.m.), then at noon, and finally in the afternoon. The short thematic presentations on topics such as evaluation, exam preparation, stress management, presenting tutoring activities in job applications, and icebreaker methods, offered space for exchange and feedback in the form of lectures or workshops. While demand was high in the aftermath of the pandemic, the following years saw a significant change: students increasingly wanted in-person offerings. Given the stress of their studies and part-time jobs, they were hardly able to take advantage of the fixed online time slots.

Fig. 11: Advertising poster for Coffee Corner Week, created with Canva Pro

The key lesson learned from this is that online formats work very well under certain conditions, but may need to be removed from the range of services on offer depending on needs and changing contexts. Therefore, flexibility, ongoing needs assessment, and adaptation are crucial for the long-term effectiveness of training programs. Additionally, interdisciplinary collaboration proved to be particularly beneficial: the active participation of students from different departments enabled a valuable change of perspective that complemented the training modules in a meaningful way.

6. Continuity and outlook

Currently, tutorial work at TUD is secured through a half-time budget position and continues to rely on third-party funding projects to enable the existing offerings. The fundamentals of the qualification for subject tutors remain in place, as does the new flipped classroom format with an integrated self-study course and digital applications. The OER materials developed continue to be used within the team and in the nationwide tutorial network, providing a solid basis for the sustainable development of tutorial work.

There is considerable potential for the future, such as the further development of challenging situations in teaching as a VR scenario to create more immersive training and educational offerings. At the same time, existing structural constraints must be taken into account. These include, among other things, unfunded or insufficiently funded tutor positions, declining funding, and limited time capacities of students. The recognition and appreciation of tutorial work also varies greatly between departments, which makes it difficult to implement and maintain the programs on a sustainable basis. In addition, internal evaluation results show a high demand for subject-independent qualifications for subject tutors. However, it is difficult to integrate these programs into students' everyday lives because students are under increasing pressure and are overwhelmed. One possible approach would be to create fixed periods or days on which both teachers and students have the opportunity to participate in further training activities, so that

it is not perceived as an additional burden or anchored in their respective contractual situations. Structural conditions directly impact participation and the success of the programs.

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