Lessons Learned 5, 2 (2025)
Submitted: September 19, 2025
Accepted: December 19, 2025

DOI: https://doi.org/10.25369/ll.v5i2.104
ISSN: 2749-1307

Creative freedom for students as a driver of innovative university teaching – A reflection

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Abstract

The *sTUDents* subproject within the framework of *virTUos* tested two formats that involve students as active co-creators: the *digital skills license* and the *creative digital workshop*. In line with the students-as-partners approach, they promote digital and personal skills through self-determined, collaborative, and reflective learning. The results show that creative freedom strengthens motivation and self-efficacy, while clear structures ensure participation. This creates a model for sustainable, student-centered teaching.

Das Teilprojekt *sTUDents* im Rahmen von *virTUos* erprobte mit dem *Führerschein für Digitalkompetenzen* und der *Kreativen Digitalwerkstatt* zwei Formate, die Studierende als aktive Mitgestaltende einbinden. Im Sinne des Students-as-Partners-Ansatzes fördern sie digitale wie personale Kompetenzen durch selbstbestimmtes, kollaboratives und reflexives Lernen. Die Ergebnisse zeigen: Gestaltungsspielräume stärken Motivation und Selbstwirksamkeit, während klare Strukturen Partizipation absichern. Damit entsteht ein Modell für zukunftsfähige, studierendenzentrierte Lehre.

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This article was originally submitted in German.

1. Preliminary remark

Higher education teaching is undergoing change. Increasing digitalization and the rapid development of artificial intelligence not only pose technological challenges, but also fundamentally change how teaching is organized, content is conveyed, and learning processes are designed, thus placing new demands on higher education [1]. At the same time, the expectations and roles of students themselves are changing. The traditional division of roles, with teachers as knowledge mediators and students as passive recipients, is increasingly being questioned [2]. Instead, concepts such as "students as partners" are coming to the fore, which take students seriously as equal partners and actively involve them in the design of teaching formats, curricula, and learning processes [3]. The focus is less on formal participation and more on a cultural shift towards shared responsibility, mutual trust, and co-creative collaboration [4]. This opens up deeper learning processes, increased motivation, and strengthened self-efficacy. As part of the virTUos project funded by the Foundation for Innovation in Higher Education (StIL), the sTUDents subproject created an experimental space to bring these ideas to life. Two formats were designed so that students are not only participants but also co-creators of their learning processes. They implement their own topics, choose methods, try out digital forms of expression, and develop individual and collaborative artifacts. The goal was to design learning spaces that enable resonance, promote digital skills in an authentic way, and strengthen confidence in one's own creative abilities.

Based on these two formats and against the backdrop of digital transformation, which requires new skills, roles, and a changed understanding of learning, this article reflects on the conditions under which student co-creation in teaching can succeed.

2. sTUDents in virTUos

The sTUDents subproject is part of the cross-disciplinary project virTUos (virtual teaching and learning at TU Dresden in an open-source context), which is funded by StIL [5]. The aim of the overall project is not only to implement innovative teaching and learning concepts on a selective basis, but to integrate them strategically into curricula, examination regulations, and university teaching practices. Students are active partners and co-creators in the concrete development of formats. This opening up of university development processes to the student perspective is in line with the fundamental conviction of virTUos. In this context, the sTUDents subproject positions itself with a special focus on student-centeredness and the promotion of digital skills [6]. The aim is to work with students to develop teaching formats in which they not only receive content, but can also actively shape their learning processes. In line with the students-as-partners approach and in close cooperation with student employees, innovative teaching formats were designed, tested, evaluated, and further developed [6]. Student feedback is incorporated into the design of the formats on an ongoing basis, rather than just at the end. Two formats exemplify the student co-design process in sTUDents:

1. The *Digital Competence License* [7] is a certificate course that supports students in systematically developing their digital skills.
2. The *Creative Digital Workshop* is a semester-long course in which students translate their own topics and interests into creative digital formats.

The following describes how participatory learning spaces were designed using the two formats and how these contributed to strengthening students' digital self-competence, collaborative skills, and confidence in their own creative abilities.

3. Examples of successful student participation based on the digital skills license and the creative digital workshop

The digital skills license was designed as a certificate course in the sTUDents subproject to strengthen students' digital competence. It is based on the European reference framework DigComp 2.2 [8] and pursues a deliberately student-centered approach. A detailed description of the didactic concept and evaluation has already been published elsewhere [7];

the course will therefore be considered from a higher-level perspective below in order to later highlight the influence of student co-design and participation within the framework of virTUos.

The course did not focus purely on teaching digital tools, but rather on actively, self-directed, and collaborative engagement with digital challenges in studies, everyday life, and work. It was based on a realistic case study in which students in interdisciplinary groups took on the role of experts advising a fictional university on the digital transformation process [7]. The course consisted of six tasks that built on each other. Beginning with the joint structuring of the group work, the students worked step by step on various aspects of digital transformation and developed digital solutions within the case study, for example in the form of texts, podcasts, infographics, or videos [7]. The course was didactically anchored in the concept of virtual collaborative learning, which combines problem-based learning with digital, interdisciplinary group work [9;10;11]. Throughout the course, students reflected on their group processes, used synchronous and asynchronous collaboration tools (e.g., MS Teams), and documented their learning progress on a shared platform [7]. The accompanying evaluation, consisting of self-assessments and focus group interviews, showed that participants not only expanded their digital skills but also developed key interdisciplinary skills [7].

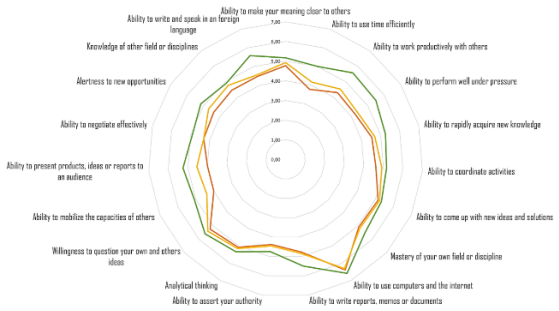

Fig. 1: Increase in self-assessed skills [7]

Figure 1 illustrates the self-assessments of the course participants' skills before (red), during (yellow), and after (green) course participation and shows a significant increase in self-assessed skills at the end of the course [7]. Collaborative skills, communication skills, self-organization, and critical thinking were promoted in the virtual group work, as was sensitivity to cultural differences and diversity of perspectives. From a meta-perspective, these results illustrate above all the impact of student participation. The active involvement of students in learning and problem-solving processes not only promoted competence gains, but also a changed understanding of roles [7]. The course thus demonstrates how digital teaching within the framework of virTUos could be transformed not only technologically, but above all didactically.

The *Creative Digital Workshop* offered students the opportunity to work on their own topics and interests in creative digital projects. The format followed a student-centered, competence-oriented approach that combined elements of project- and problem-based learning with collaborative work phases, reflective loops, and continuous feedback. The focus was not only on the result in the form of a digital artifact, but above all on the path to achieving it through a self-determined, collaborative learning process in which the participants developed content, formats, and working methods largely independently and in a self- . Teachers took on the role of learning facilitators, structuring the process through clear tasks and transparent objectives and providing support through methodological input and individual, formative feedback without dominating the learning process. Examples of the artifacts created by the student groups included a self-produced short film that addressed society's obsession with self-optimization and reflected on its psychological consequences, a travel blog that linked personal experiences with analytical perspectives on mobility, culture, and belonging, an Instagram project that used interactive film quizzes to encourage active engagement with film culture, and a podcast that critically examined the phenomenon of media addiction.

An adapted content analysis of the students' reflections showed how effectively this learning architecture impacted the development of key academic and digital skills. Students reported a significant increase in self-organization, creativity, and technical implementation skills, as well as a deeper understanding of content and design contexts. The opportunity to make independent decisions, for example

about content, tools, and the distribution of roles within the team, was consistently experienced as motivating and empowering. Students particularly emphasized that the openness of the format allowed them to try things out, take on new perspectives, and identify with their own learning product. This creative freedom not only led to high intrinsic motivation, but also to an emotional attachment to their own project. The students saw their products not merely as coursework, but as an expression of their own engagement with a topic that was meaningful to them. Reflection quotes showed that pride, responsibility, and the desire for quality were central experiences in the course of the project, regardless of assessment or grading. Digital self-efficacy was also strengthened. The students gained confidence in familiarizing themselves with new tools, preparing digital content in a way that was appropriate for the target audience, and overcoming challenges together, even if not everything worked right away. Difficulties were recognized and accepted as learning moments, which not only strengthened their ability to deal with digital uncertainties, but also promoted their ability to reflect on the learning process as a whole. Last but not least, the feedback showed that structuring elements such as clear tasks, small groups, continuous feedback, and transparent communication contributed significantly to ensuring that openness did not turn into excessive demands. Overall, the Creative Digital Workshop illustrated how participatory teaching can succeed in digital contexts, namely through genuine opportunities for co-creation, guided autonomy, and a didactic design that focused on relationships, responsibility, and expressiveness.

4. Lessons learned: A reflection

For us, the sTUDents subproject within the framework of virTUos was more than just a test of new teaching formats; it was a practical laboratory for exploring what university teaching can look like when students are not just participants but active co-creators. The experiences gained from the Digital Competence Driving License and Creative Digital Workshop formats have yielded key insights that go beyond the respective courses and which we understand as lessons learned for participatory, future-oriented university teaching.

1. Creative freedom is the key to genuine participation

When students are given the opportunity to choose content, methods, media, and forms of expression themselves, they not only develop creativity, but also a sense of responsibility and commitment. Both formats showed that when students were able to decide what they wanted to learn and how, they identified more strongly with the learning process and regarded the resulting product as "their own." , the opportunity to help shape learning paths was described by many as empowering, motivating, and meaningful. Creative freedom activates a sense of responsibility, which is a key factor for sustainable learning. However, these processes only succeed if they are not isolated but conceived as a didactic principle and continuously supported.

2. The Students-as-Partners approach changes not only the role of students, but also the role of teachers

Participatory teaching requires a fundamental change in perspective. Those who view students as partners shift the focus from imparting knowledge to joint creation. This also means that teachers must take a step back, relinquish control, and assume a moderating, supportive role. This change in role is challenging and requires trust, flexibility, and a willingness to question one's own routines. At the same time, it opens up new forms of didactic relationships. Teaching becomes a dialogue, a co-construction in which students are taken seriously as experts in their own perspectives. The Digital Competence Driving License in particular showed how productively student co-development influenced the course.

3. Participation and openness need structures

Open learning formats can quickly become overwhelming if guidance and support are lacking. What is intended as freedom can create uncertainty if students do not know what to hold on to. In both formats, we have learned that freedom only becomes effective when it is

framed by clarity. Clear tasks, regular feedback, transparent expectations, and tangible examples help to make constructive use of the open space. This structure is not a contradiction to participation, but rather its prerequisite. Participatory formats need didactic design that leaves room for maneuver but also provides support.

4. Digital and personal skills grow together

In dealing with digital tools, formats, and media design, the students developed not only technical skills but also interdisciplinary competencies such as communication, teamwork, time management, reflection, and critical thinking. It became particularly clear how closely digital self-efficacy is linked to the experience of meaning, autonomy, and social support. Difficulties were not experienced as failure, but as part of an active, self-directed learning process, which strengthened resilience and confidence in one's own ability to learn.

5. Reflection is the key to conscious learning

A central component of both formats was the accompanying reflection on content, collaboration, decisions, conflicts, and learning paths. These reflection phases turned the experience into learning. The students not only dealt with the "what" but also with the "how" and "why" of their project, thereby developing metacognitive skills that extend far beyond the concrete artifact. Reflection not only strengthens learning in the moment, but also the applicability of what has been learned to future contexts, as well as in studies, work, and the digital space.

5. Conclusion

Our experience shows that when we enable students to truly participate in the design process, the result is not only better teaching, but also relevant, resonant, effective education. Formats such as those tested in the sTUDents subproject require courage, didactic openness, and structural support. But they are worthwhile because they show what is possible when students are not thought of as recipients but as partners and are taken seriously. It was only through the resources and freedom provided by virTUos that it became possible to really test these spaces, reflect on them, and develop them further together with students. This enabled us not only to design innovative learning formats, but also to make a concrete contribution to strengthening student-centered teaching at TU Dresden. The question is therefore no longer whether participation is possible, but how we can make it possible. And whether we are prepared to rethink university teaching in such a way that student participation is no longer considered an exception, but a fundamental principle of sustainable education.

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