

Educational horizons at Leiden University

Mapping Innovation

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Report on the current landscape and potential avenues of educational innovation at Leiden University

Preface

Presented before you is the report resulting from the research project on educational innovation within Leiden University. This project was carried out to identify how both the broader infrastructure within the university and the infrastructures within the faculties are structured concerning this topic. A total of 16 people were interviewed. Furthermore, publicly accessible information on the website of Leiden University as well as documents obtained from stakeholders within the faculties were used. Topics such as grants, innovative initiatives within courses, and the design of support structures will be discussed. Opportunities and potential improvements in this area, particularly within the context of governance structures, will also be explored.

I would like to thank everybody who contributed to this research project, especially those who were so open to being interviewed.

Educational innovation in the context of Leiden University¹

In the ever-changing landscape of higher education, universities find themselves with multiple sets of challenges. Externally, these include the forces of increasing international competition, the emphasis on diverse and inclusive educational offerings, and technological developments. Within this context, the number of (online) education providers is increasing globally which challenges universities to continuously (re)define their distinctive value. In order to meet the requirements and preferences of a generation growing up in the digital world, enhance learning experiences, and offer students with relevant skills, it is critical to adapt to digitalization and the changing (technological) nature of education. In addition, universities have the task of ensuring that their programs prepare students for the changing needs of the job market, where there is a demand for soft skills like collaboration, communication, and critical thinking.

Internally, Leiden University is dealing with islands of innovation. Multiple initiatives and developments related to innovation take place within the university, driven by enthusiastic lecturers who have initiated projects aimed at enhancing teaching and learning. The overall coherence and integration of these activities within the institution is impacted by the lack of a university-wide vision to pool information and bring various initiatives together.

The architecture of the university's infrastructure for supporting and realizing educational innovation is the main topic of this report. This will commonly be referred to as Leiden University's ecosystem of educational innovation. A guiding topic in this research project, integrated into the first two research questions, is the available opportunities for lecturers to engage with the topic of educational innovation. A further emphasis will be given to how the university's lack of a cohesive body prevents effective expansion and upscaling – i.e. building the bridge between the islands. This research project seeks to support the university's dedication to quality in teaching and learning as well as to prepare students for the future in a continuously changing academic environment.

1. The internal and external challenges mentioned in this introduction can be found in the report "Onderwijsvisie: Learning@LeidenUniversity".

This report aims to answer the following questions:

- 1a. What internal and external grants exist for lecturers at Leiden University to implement innovative educational ideas?
- 1b. What are examples of initiatives implemented, drawing on available grants?
- 1c. What are the shared characteristics of lecturers engaged in educational innovation?
2. What are the key enablers within faculties that contribute to the establishment of a thriving innovation ecosystem?
3. How can the existing innovation ecosystem within Leiden University be improved?

The report is structured as follows. The first chapter starts with a brief insight into the shared characteristics of lecturers engaging with the topic of educational innovation. After that, a variety of internal and external grants related to educational innovation that lecturers can utilize are unveiled, complemented by examples of initiatives that originate from these grants. The second part will dive into the optional enablers that contribute to the establishment of an ecosystem of educational innovation within faculties. In the last part, the focus turns to the institutional level, providing several guidelines that can be utilized for improvement.

1.1 Shared characteristics of lecturers engaged in educational innovation

This chapter begins by offering an understanding of the shared characteristics of lecturers engaged in the topic of educational innovation. Innovative teaching comes about through dedicated lecturers often looking for ways to improve their teaching and hence their students' learning experiences. Regardless of their age or years of experience, these innovators or early adopters embody several characteristics that may encourage them towards experimentation and collaboration in their teaching practices.

- **Intrinsic motivation**

Lecturers who are engaged in educational innovation are driven by a natural passion for teaching and learning. They derive pleasure and value from experimenting with new approaches or teaching methods.

- **Willingness to put in extra time**

Time is a significant constraint for many lecturers. Lecturers committed to improving their teaching show that they are willing to put in extra time beyond their regular workload to engage meaningfully with this topic.

- **Collaborative spirit**

Collaboration is an important driver of innovation. It brings together a variety of viewpoints, backgrounds and skillsets to solve issues and come up with new ideas. By collaborating with peers, educational experts or support personnel, for example, lecturers who are involved in innovative teaching exemplify a collaborative spirit. They attend networking events to learn from others, share best practices and exchange ideas.

It should be clear that educational innovation should be made as accessible as possible, not only for lecturers who exhibit these characteristics. I once again emphasize that this report explores the chances for all lecturers to participate in and contribute to educational innovation through the resources and opportunities available.

1.2 Grants

To establish a proper understanding of the infrastructure supporting educational innovation at Leiden University, this report first delineates the available grants that exist for the purpose of educational innovation. Grants are imperative in the context of educational innovation. Such monetary resources provide the space for experimentation and renewal and rewards excellence in teaching, among other things. The grants discussed in this chapter are divided into two categories: (1) grants from central and external funds, and (2) grants available within faculties², if any. They will be addressed in this order, supplemented by examples of initiatives that have originated from these funds.

1.2.1 Central and external grants

Central and external grants within the university context play a crucial role in fostering educational innovation. The university's funds, known as central grants, are intended to support projects that complement the institution's objectives. External grants come from sources such as governmental organizations. Universities can realize large-scale projects in education with greater resources and opportunities for collaboration because of such funding. Let's examine the most important central and external grants that lecturers can apply for in more detail.

2. Faculties' grants are merely about grants that are specifically dedicated to innovative initiatives from individual teachers or a small group of teachers (i.e. bottom-up initiatives). It is not, for example, about possible participation into pending projects at faculties that align with the initiatives these lecturers want to execute.

Comenius Program



Comenius Program

The Comenius Program is a national incentive program for higher education and universities of applied sciences dedicated to educational innovation and implemented by the Nationaal Regieorgaan Onderwijsonderzoek (National Educational Research Organization). The program empowers educators by providing them with the resources to bring their educational visions to life. Every year, the program fosters a conducive environment for a wide array of teaching innovations to thrive. The government's objective is to express its recognition of excellence and passion in teaching. Comenius contains three different application categories with several grant levels (Teaching Fellow, Senior Fellow and Leadership Fellow). Each grant has varying requirements related to the applicant's duration of employment, position, and experience. The university offers support for anybody who wants to apply for one of the grants. Among others, the following two projects received Comenius grants in June 2024.

Cases:

A. Educating medical students and nurses in training together

Dr. Alexandra Langers & Esther Hamoen
Senior Fellowship Project: Bring the hospital to the healthcare professionals in training: integration of virtual teaching activities in a clinical teaching unit to enhance interprofessional workplace learning

A big part of the education of physicians and nurses takes place outside the hospital. This creates a barrier once students start their workplace training. This project aims to educate medical students and nurses in training together, so they can learn with each other, and from one another. Modern technology is used to create a realistic and safe environment, bringing a real-life ward to the teaching environment outside the hospital.

Contributes to: labour market preparation, educational forms of the future

B. Language support for students with reading difficulties

Dr. Eun-ju Kim
Teaching Fellowship Project: Levelling the reading and learning environments: language support for students of Korean and Japanese with reading difficulties

This project aids students with reading difficulties who are learning Korean and Japanese by developing language-specific tools. Individual student needs are assessed and existing support methods for dyslexia familiar to those in the Netherlands are combined with those in the target languages. These methods are integrated in the course content of the BA language programs of the respective studies.

Contributes to: student diversity, inclusive and supportive language program.

1

2

Case:

C. Awareness of Students' Skills: an Employability Toolkit for the Humanities (ASSET-H)

Catholic University Leuven (coordination), Leiden University (partner), University of Helsinki (partner), Randstad Belgium (partner).

To keep up with the global economy, Europe needs high-skilled employees whose profiles align with the evolving labor market. Employers, however, increasingly report increasingly report mismatches and difficulties in finding the right people. Humanities graduates face particularly high unemployment rates and significant skill-job mismatches despite fostering many 'future-oriented' skills, such as reading, writing, and critical thinking. To address this, ASSET-H developed an employability toolkit for humanities students, enhancing their awareness of their skills and improving their transition to the labor market.

Contributes to: cooperation between educational institutions and business, career guidance, youth unemployment, overcoming skills mismatches.

Erasmus+ "Cooperation Partnerships"



Erasmus+ "Cooperation Partnerships"

Erasmus+ is a European Commission initiative, offering grants for education projects with partners both in Europe and beyond. Erasmus+ also supports international mobility (exchange) of students and teaching staff.

Grants for Cooperation Partnerships are intended for people who develop and use innovative practices within the education sector or between different sectors (universities, public authorities, civil society organizations and private enterprises). Cooperation partnerships are collaborative projects between at least three organizations in Europe. In such a partnership, one can work with other European (educational) organizations to strengthen and develop their current activities and organizational capacity, as well as come up with innovative solutions and/or exchange good examples. Through international activities, such as joint meetings, events or internationalization at home, people can work on strengthening their organization and (international) networks. Exchanging knowledge and developing innovative products and methods is central. Together, the organizations in the partnership increase their capacity to make a national and international difference within higher education.

The Dutch Education Award



The Dutch Education Award

The Dutch Education Award for MBO and HO is the highest distinction awarded in Dutch secondary vocational education, higher professional education and university university education. It is presented in acknowledgement of, and as an incentive for, educational innovation in MBO, HBO and WO. This funding serves to acknowledge educational teams which have developed an innovative educational initiative over the last six years which led to an exceptional accomplishment. The award was previously known as the Dutch Higher Education Award but has been merged into the Dutch Education Award. This is not only a sign of appreciation for teams in higher education, but also for those in secondary vocational education. Teaching teams consisting, for example, of lecturers, educational advisors, researchers and students can participate. They are free to choose a theme. Recently, the education team behind The Learning Mindset won the second prize and received 800,000 euros for it.

3

Case:

D. The Learning Mindset

Leiden University College Education Team.

The team of The Learning Mindset has developed a toolkit that integrates 'journaling' (a form of structured written reflection such as in a diary) into education. With the toolkit, students learn to control their own learning process by actively and structurally reflecting. The aim is to help students approach learning by actively figuring out how to get better, practicing, getting feedback, and setting new goals.

Contributes to: student engagement, self-regulated learning, labour market preparation.

4

Case:

E. Bones on Demand: Using 3D models in archaeological teaching and learning

Dr. Rachel Schats, Prof. Marie Soressi & Martina Revello Lami.

In order to improve archaeological education, Dr. Rachel Schats' LTA project focused on digitizing parts of the Faculty of Archaeology's physical reference collection. Its goal was to produce 3D reconstructions of human skeletal remains, with a focus on estimating sex, helping students to better understand minute distinctions in anatomy. By using advanced scanning methods, the project entailed digitizing bones and incorporating these models into the curriculum via platforms like Sketchfab and Brightspace.

Contributes to: accessibility, inclusivity, resource preservation, sustainability, digital literacy.



image: 3D model on Sketchfab showing an example of annotations

Leiden Teachers Academy

Leiden Teachers Academy

Established in 2014, the Leiden Teachers' Academy (LTA) is comprised of 20 Teaching Fellows, all of whom share a passion for education. The LTA's mission is to highlight the expertise of Leiden University's finest educators, further develop their skills, and ensure that students and colleagues can benefit from their teaching excellence. The LTA aims to enhance the quality of university education and stimulate educational innovation across the university.

- Teaching Fellows

Teaching Fellows are selected by their faculties based on the following criteria:

1. Actively engaging in substantive and pedagogical innovations in education by initiating and executing projects related to educational innovation. They also participate in research projects in the field of education.
2. Continuously enhancing their expertise in education, including proficiency in the use and development of new educational materials and techniques.
3. Willingness to collaborate on educational innovation with other educators in multi-disciplinary contexts.

- Educational Innovation

As Teaching Fellows, educators receive recognition for their teaching achievements and the opportunity for further development in the field of educational innovation. They receive a subsidy of €25,000 for the implementation of one or more educational innovation projects. These projects are carried out through collegial exchange, peer coaching, and, when applicable, interdisciplinary collaboration within the LTA. The LTA organizes at least one university-wide symposium on educational innovation at Leiden University each year, focusing on the exchange of information and experiences regarding best practices.

Grassfields



Grassfields

The Grassfields funding scheme focuses upon the ambition of scaling up successful educational innovations, leading to their adoption across all faculties. The grant will provide funding for recently completed and ongoing educational projects with potential for wider deployment within the university. This fund will upscale educational innovations which are faculty-transcending in character. There is a total amount of 300,000 euros to be divided between projects participating.

Grassfields was introduced in July 2024. The deadline for the first round of applications is September 2024. This means that, at the time of writing, there are no cases that have originated from this grant.

5



1.2.2 Faculties' grants

Grants within individual faculties play an integral role in supporting small-scale educational innovation. The purpose of these faculty-specific grants is to provide funding for smaller projects that improve teaching and learning within a particular course or discipline. In contrast to most central or external grants, faculty grants often focus on practical improvements that may be put into practice more rapidly. These grants encourage lecturers to, for example, experiment with (new) pedagogical approaches or integrate (emerging) technologies into the classroom. They furthermore allow for a broader interpretation of what is “innovative” and allow lecturers to improve incrementally without having to do something completely different. Hence, faculty grants contribute to the development of an innovative and progressive culture in the department by financing such initiatives.



6

Grassroots/Grass Shoots

The teacher support desk of the Faculty of Social Sciences, SOLO, has been providing Grassroots and Grass Shoots grants to teachers with innovative teaching ideas since 2016. Grassroots projects (maximum €2.000) are intended to carry out promising experiments or implement educational innovation of modest size. Teachers are completely free to choose a topic. Grass Shoots projects (maximum €8.000) are meant to implement educational innovations of significant size. The grants cover both personnel and material costs.

Three examples will provide a more detailed idea of initiatives arising from these grants ³.

³ Online you can find [many more such examples](#).

Cases:

F. Podcasts about the experiences of people with autism (Grass Roots, 2022)

In 2022, Dr. Rachel Plak (Pedagogical Sciences) recorded six podcasts in which she engaged in conversations with people with autism, talking about their experiences. By listening to podcasts, students get a unique insight into different experiences of autistic individuals. This introduces them to the diversity of autism. These experiential podcasts are in preparation for the lectures. During the lectures, the experiences of people with autism are linked to theory. Mutual exchanges between students during these contact moments are an important part of the program.

G. Enhanced insight into practice through a video assignment and peer feedback (Grass Roots, 2023)

In the Digital Applications in Mental Healthcare course, students lacked a clear insight into eHealth practice. By developing a video assignment in which students create their own module for online psychoeducation, students have the opportunity to explore the practice. Linking peer feedback to the assignment allows students to learn from and with each other. The assignment concludes with a presentation, allowing the teacher to assess not only the result, but the process.

H. Dementia up close in Virtual Reality (Grass Shoots, 2023)

Psychology students often do not encounter real patients in real life during their undergraduate studies. For their Bio- and Neuropsychology course, Prof. Dr. van der Ham & Dr. Schomaker, in collaboration with Monika Theron of LLInC, will use an existing 360° video app in which students encounter patients with dementia and can experience what it is like to interact with them.



image: from Leiden University blog article "Using VR to experience how it feels when a patient throws a shoe at you"

Cases F and G indicate that educational innovation can be impactful without being grand or groundbreaking. Podcasts have already been recorded for two decades. In the context of education and this particular course, however, the creation and implementation of recorded podcasts (by the lecturer herself), it is rather innovative. The podcasts bring the lived experiences of people with autism into the classroom, enriching the lectures and encouraging students to empathize and look at autism with a different perspective.

Case H exemplifies a notable aspect of educational innovation: the integration of advanced technology into a course. Students benefit from an enhanced learning experience by using such tools as they can develop practical skills in a simulated environment and deepen their understanding of dementia.

7

Innovation Fund Humanities

The Innovation Fund Humanities (Subsidie Onderwijsvernieuwing) offers a versatile funding option for teachers. Like Grassroots/Grass Shoots, this fund offers both the option of purchasing potential material resources, and the possibility for teachers to "buy" time, for example by hiring student assistants or delegating tasks to colleagues. A maximum budget of €5,000 is available for projects by individual teachers, and €10,000 for projects by a team of teachers or teachers from different programs. One of the principles of the fund is that the project, if successful, should also be potentially applicable to other courses. Furthermore, the application should be connected to at least one of the following areas of focus ⁴:

- Applying (online) activating forms of work
- Tandem projects / Interdisciplinary education
- Open access teaching materials
- Labour market preparation
- Introducing social issues into the curriculum
- Conducting research with digital tools and methods
- Student well-being

Some of the projects that have emerged from the Innovation Fund Humanities in academic year 2023/2024 include the following:

4. More information about the [areas of focus and \(the conditions for\) applying can be find here.](#)

Cases:

I. Interactive city walk mapped

Areas of focus: Applying (online) activating forms of work + Open Access teaching materials

Within the two courses L'Italia oggi and Society of the Netherlands, practical knowledge about culture is missing. To improve this, students will connect to the city and society through a digital map and a real city walk. Students will work in groups to link to the city and society through an interactive hands-on task where research, education, and impact come together. They will design an interactive map and disseminate it via podcasts/knowledge clips. The maps and audio/video material will be compiled on a website.

J. Digitized heritage in the classroom – Co-creating 3D study materials and virtual collections for learning

Areas of focus: Applying (online) activating forms of work + Open Access learning materials + Doing research with digital tools and methods

Students often fail to develop a clear understanding of the materiality, relative scale, 3D qualities, and spatial aspects of the works they are studying if represented as 2D images. This limits their comprehension and can leave them under-prepared for future work in the field. By teaching students how to work with 3D digital formats of documented heritage and by inviting them to create their own 3D digitized heritage objects (by means of scanning), they develop new skills, learn how to make detailed observations, and learn to conduct analysis in 3-dimensions (rather than 2).

K. Online module of the Plastic environment and Society course for broad use within FGW

Area of focus: Introduction of social issues into the curriculum

There appears to be much interest among students in the topic of sustainability. Plastic, and in particular plastic waste, is a very hot topic that could be taught in a broader context. This initiative includes developing professional mini online modules and/or knowledge clips to make the course more widely applicable.



image: from Leiden University blog
"Archaeology brings 3D scanning into
the classroom"

The cases described show diversity in terms of content, complexity, and areas of focus. In terms of content, the projects involve knowledge clips, use of 3D materials, and the creation of a digital map. In this, the use of technology is the common denominator but its application showcases many possibilities. In terms of complexity, mainly Case K shows that educational innovation does not have to be disruptive. This project is about developments of knowledge clips, something that has been happening for some time now. Its novelty in the context of the curriculum is what makes it innovative. The diversity in areas of focus reflects the multitude of possibilities that can be thought of when considering innovation within teaching. The overall diversity emphasizes that the application of educational innovation is widely possible.

So, what's next?

Faculties' future funds?

Grants within faculties intended for bottom-up educational innovation initiatives are limited to the two just described. What has emerged from the interviews, however, is that other faculties do consider implementing similar initiatives. For example, at the Faculty of Law, a grant called 'Proeftuinen' ('Living Labs', or literally translated: 'experimental gardens') will be implemented. The governance structures and conditions for Proeftuinen are yet to be developed, aligning with the philosophy of the Kernvisie⁵. The topic is also prevalent among the Faculty of Science, although they are certainly not in the start-up phase and nothing concrete exists yet.

It should be made explicit that an absence of grants within faculties does not mean that the issue is not in play within a faculty or that lecturers have no opportunity to realize new ideas. Money may certainly play a role, but this does not mean that there are no other ways to bring about innovation in education. In [Chapter 2](#), I further explore other opportunities, or enablers, that can help make initiatives related to educational innovation possible or at least facilitate sources of inspiration.

⁵ The Kernvisie relates to the reorganization of the law bachelor's program. It is developed as a result of mid-term evaluation with the goal of making education more future-proof, inclusive and challenging. Innovative teaching methods in the broadest sense are part of the Kernvisie.

2. Key enablers for educational innovation to thrive

Thus far, the focus has been, in particular, on the grants within Leiden University that teachers can utilize. Grants are an obvious source for creating innovative possibilities in education. This does not mean that innovation in teaching is impossible or more difficult in its absence. In this chapter, it becomes clear that various enablers exist within Leiden University's faculties that help realize educational innovation or add value by providing inspiration and establishing structures to achieve knowledge sharing within the academic community. These enablers do not exist in isolation. Despite having their own influence in the ecosystem of educational innovation within the university, they also interact and influence each other.

2.1 A supportive infrastructure within the faculty (Teacher Support Desks)

The influence of a support infrastructure, most importantly through Teacher Support Desks (TSDs), upon the fostering of an innovative ecosystem in education can be profound. TSDs play an important role in supporting lecturers (both with didactics and technology) to develop and implement innovative teaching practices and help reduce challenges lecturers may face in this process. By doing so, TSDs enable lecturers to remain up to date with pedagogical advancements and refine their teaching. In an ideal situation, TSDs also facilitate the exchange of ideas and best practices between lecturers and within the institution. A strong infrastructure, including TSDs, not only encourages individual and course development but also has the potential of cultivating a culture of collaboration within the faculty.

Within Leiden University, TSD's are well perpetuated and organized. They are currently present in most faculties, and teachers generally know how to find their way to these departments. In many faculties, in addition to providing support, the TSD is also involved in other activities related to educational innovation. Such an infrastructure is therefore largely at the basis of perpetuating a healthy ecosystem around the theme of educational innovation.

Cases:

L. Support from TSD (Faculty of Science)

As part of a project around the Science Skills Platform, the TSD of the Faculty of Science (SEEDS) is conducting interviews with lecturers. During these conversations, issues often come up from lecturers such as, "I want to do X in teaching, what about Y? These questions emerge from the group of lecturers who may need some more encouragement or support regarding educational innovation. Tailored support can subsequently be offered from the TSD.



2.2 Outreach and Engagement

Outreach and engagement initiatives organized by faculties play an important role in sustaining an innovative ecosystem within the university. These initiatives encompass events, ranging from workshops to educational festivals or symposia. These serve as a means for inspiration, collaboration, and knowledge sharing among lecturers (and support staff). Such events empower teachers to explore innovative approaches and stay up to date on trends in the field. Moreover, they contribute to a culture where experimentation is encouraged because it demonstrates what teachers or support staff have recently tried out, experimented with, or implemented in their teaching.

Considerable attention is paid to outreach and engagement within Leiden University, although its implementation varies among faculties. A few examples may help to get a better grip on the theme.

Case:

M. Teaching Fair Leiden Law School (Faculty of Law)

The Teaching Fair is a unique new event organized for and by the teaching staff of the faculty together, with the Education staff service. Together they form the Learning & Teaching Community (LTC). The first edition of this event was held on April 4, 2024, with plans to repeat it each year. It's an event where lecturers and educational experts can engage in educational innovation and discuss how to use new teaching tools and methods.

Case:

N. Join the Lunchbyte (Faculty of Humanities)

To keep up with the global economy, Europe needs The Expertise Centre Online Learning (ECOLe), Educational Advice and Quality Assurance (O&K) and Human Resources (HR) teams. Together with many teachers, these organisations organise inspiring meetings throughout the year. These lunchbytes are organized for and by teachers and cover a wide variety of topics. While enjoying lunch, lecturers can learn more about using ChatGPT and podcasts in education, or about student welfare and applying for a Comenius grant. The focus is on learning from each other, exchanging experiences and gaining knowledge.

O. Faculty Network on Education and Innovation (Faculty of Social Sciences)

In academic year 23-24, the Faculty of Social Sciences launched a faculty network for enthusiastic lecturers explicitly engaged in education (innovation): the Faculty Network on Education and Innovation (FNEI). The network was established by the faculty board. The network consists of lecturers from all FSW institutions and encourages multidisciplinary collaboration, educational innovations, and initiatives within the faculty. The FNEI meets at least six times a year for exchange, inspiration, and critical reflection on educational innovation and vision.

These examples show how faculties deal with giving attention to the teaching aspect of the university, particularly where there is emphasis on an innovative way of teaching. Moreover, a feature of many such initiatives (mainly apparent in case M and N) is that they are low-threshold activities that lecturers could easily join when they are interested, want to be inspired or learn something new. One outstanding challenge for many faculties currently, however, is amassing a wider range of lecturers within these initiatives, beyond the usual suspects who attend often.



image: Leiden university join the lunchbytes invitation 2024

2.3 Facilitation of sharing knowledge within the faculty

Sharing knowledge within the university not only happens through events or activities as described in the aforementioned enabler. It is also facilitated through online platforms like teacher platforms or dedicated environments in Microsoft Teams. These digital platforms serve as virtual places where support staff can inform lecturers on teaching and learning or where educators can exchange ideas and best practices.

Although faculties vary in terms of the content of this enabler, it is fair to say that faculties have indicated that it is still a point of attention. Primarily, this concerns the creation of more publicity or increasing outreach or attention from the faculty community regarding such platforms. Nevertheless, the potential of such online platforms is comprehensive, fostering accessibility to and exchange of new ideas, community building among lecturers, and improvement in teaching quality among other things.



images: Teacher Platform of FSW (top), Teacher Platform of FGGA (bottom).

2.4 Unique access opportunities

Unique access opportunities provided by faculties, such as active learning spaces or studios for recording podcasts or knowledge clips, offer educators the means they need to explore creative teaching methods and new approaches that enhance student engagement and learning outcomes. By providing access to such spaces, faculties support lecturers who want to experiment with innovative instructional methods that utilize digital media opportunities. As is true of several enablers, their impact goes beyond the individual classroom experience. The presence of such opportunities helps perpetuate an innovative ecosystem where teachers can be inspired and the possibility of cross-pollination of ideas arises.



images: Digital Lab at PJ Veth building

2.5 Other variables

In addition to the aforementioned enablers, other variables may also play a role in fostering educational innovation within a university context. An example of this can be seen in the case of the Faculty of Governance and Global Affairs (FGGA).

FGGA is characterized by fast growth in student numbers, new programs and continuous development. Furthermore, it's the youngest faculty in terms of existence and contains relatively young academic staff (it's essential to note that innovation is not driven by age. Rather, within FGGA there is a diverse mix of educators contributing to innovative projects). Although FGGA does not necessarily excel in executing the specific enablers, educational innovation is a theme that is widely noticeable. The continuous growth in student numbers, for example, is a reason for FGGA to think about more efficient ways to (re)design education(al programs), for example by the implementation of Blended Learning related initiatives. Although not examined in detail, (the combination between the) factors such as organizational youthfulness or the diverse group of lecturers engaged in the topic may also contribute to the thriving of educational innovation. Nonetheless, their approach to innovation reflects a commitment to improve teaching within the faculty through a continuous (re)assessment of teaching practices.

These enablers reflect the ways in which faculties can reflect and make considerations regarding educational innovation within the faculty. In various ways, it offers insight into how contributing to educational innovation is not necessarily tied to the implementation of grant structures, but that it can also be done on a smaller, low-threshold scale, for example by organizing a Lunchbyte related to an innovative theme. After all, when lecturers are simply given the opportunity to engage with the topic or to be inspired, new ideas can be generated. The purpose of this chapter was to show various ways in which this is possible.

One more point about integration of educational innovation into lecturers' capacity must be discussed before concluding this chapter: their heavy workload. Heavy workload may have an impact on their capacity to engage meaningful with this topic. It's paramount to keep lecturers' demands and interests in mind when thinking about (new) initiatives or setting higher standards for educational innovation. Supporting them in meeting their desires is essential when it comes to creating a healthy innovation ecosystem. Ultimately, innovation must provide a specific function rather than being an end in and of itself.

3. Improving Leiden University's ecosystem of educational innovation

The final chapter focuses on attempting to unveil elements that attention could be paid to when one thinks about development within the ecosystem of educational innovation at Leiden University. So far, this report has mainly addressed what takes place within the separate faculties – the grants and enablers for educational innovation to be fostered. The development, management, and maintenance of the ecosystem, however, transcends the faculty. This chapter explores ways in which the organization of educational innovation on the institutional level can be further developed so that it works in a more integrated, effective, and efficient matter.

During the interviews with faculty stakeholders, multiple topics were identified as potentially needing improvement to varying degrees. These topics are clustered into two main categories: Infrastructure and Support (1) and Policy and Governance (2). Efforts have been made to accurately represent these issues and to present alongside them a way of thinking that highlights why and how improvement or development might occur within the ecosystem. Consequently, the content of this chapter is not merely a description of identified topics for improvement, but also a framework for thinking about these issues ⁶. Academic literature provides a multitude of factors that can be considered within this context, from creating a culture of innovation to factors that contribute to sustaining innovations in education. It is important to note that not all themes can be addressed simultaneously. Development takes time. Therefore, this chapter should be viewed primarily as a guide for contemplating how to focus on this theme.

Something which needs further clarification is that, despite this chapter describing the institutional level and possible aspects of improvement within, it is important to realize that faculties require a level of autonomy to successfully function. Intervening with this autonomy should be handled with care. Moreover, faculty autonomy should be viewed as an enabling factor to innovation, with the understanding that university wide infrastructure & support and policy & governance should provide the underlying framework for successful faculty innovations to thrive.

6. Please note: it is not a description of a proven method for achieving positive change (this project is too limited for that).

3.1 Infrastructure and Support

This category refers to building the necessary infrastructure and support systems to facilitate the exchange of developments within the field. As Leiden University is a decentralized organization, challenges arise regarding connectivity potential. This plays a role in raising the internal challenge mentioned in the introduction: islands of innovation. By strengthening the infrastructure and support systems, knowledge dissemination and collaboration within the university is promoted.

This can be achieved by:

1. Connecting relevant departments within the university:

For example by creating cohesive communication lines. This may manifest itself by better connecting TSDs of faculties with each other and with central departments within the university (LLInC, SAZ, ISSC, etc.).

2. A central knowledge partner:

A contributing and perhaps vital part is a central department that takes responsibility for the facilitation of connecting innovation. Some faculties have mentioned the need for a reliable knowledge partner who is aware of what is happening within the faculties and is also knowledgeable about the topic of innovation. The knowledge partner acts as a liaison: it transfers knowledge and facilitates collaboration, providing advice where needed. It emerges from the conversations with stakeholders within the faculties that this role should likely be played by LLIInC in partnership with ICLON.

3. Increased visibility:

When (creative) practices are shared and recognized, they have the potential to inspire others. Furthermore, a positive atmosphere that supports the development of new ideas is maintained when educational innovation is increasingly shared. This enhances education generally and is consistent with the university's mission to provide advanced education.

Benefits:

1. Enhanced knowledge sharing: strengthening the infrastructure within the ecosystem results in a higher chance of sharing knowledge, best practices, trends, information, and the latest developments throughout the institution. Multiple studies note that the presentation of findings and results of working with an innovation is important (Stringfield, Reynolds & Schaffer, 2008; Lewin et al., 2009)⁷. Dekker and Feijs (2005) also report the importance of ideas that “travel” and the creation of plans to disseminate ideas from an innovation. By doing so, innovation can be more effectively shared across different departments, leading to higher chances of successful initiatives not only benefiting isolated faculties, but the entire university.

2. Enhanced collaboration: collaboration with regards to innovation proves to be a vital part of an innovation ecosystem for several reasons. Firstly, collaboration between consumers of educational innovations is important for the dissemination of such innovations (Khatri, 2018). When consumers communicate and work together, they can help each other in improving or refining certain teaching practices. Such interactions lead to more transferable products that more instructors can use. Secondly, and in line with this, Kottmann, Schildkamp and van der Meulen (2023) raise the suggestion to move beyond the idea of innovations as definable instruments that provide targeted

solutions to teaching challenges and are transferable across contexts with minimal adjustments. Rather, a significant group of teachers who participated in their study defined innovations as concepts that inspire teaching practices (instead of merely usable instruments). Following this logic, integrated collaboration better enables knowledge acquisition about contextual dependencies. This leads to potentially greater benefits for lecturers as it provides more opportunities to tailor innovations to their specific needs and teaching environments. Thirdly, collaborative interactions between relative parties have proven to increase teachers' beliefs in applying more innovative teaching methods in the classroom (Fuad, Musa & Hashim, 2020).

3. Meeting faculty needs: maturing the infrastructure within the university (when complemented by the aforementioned possible benefits) is relevant for meeting faculties' needs, such as becoming knowledgeable about what other faculties do or enhancing efficiency within the university. By connecting innovation, the university can ensure that the efforts taking place in educational innovation are more coordinated more coordinated and, hopefully, more impactful.

⁷ Attention is already being paid to this. See the outreach and engagement section in Chapter 2.

By thinking about and developing approaches to reinforce the infrastructure and support system within the university (including a partner knowledgeable about the faculties and the topics) innovation can be increasingly connected throughout the university, potentially leading to advancements surrounding knowledge dissemination, collaboration, and cross-pollination ⁸.

Tip



How to share knowledge effectively?

Participants in research by Peters (2011) valued knowledge sharing in the form of emails from the coordinators and written materials regarding the program. The most crucial factor was information accessibility. According to a different study, crucial information that should be disseminated throughout the school is the program's efficacy - what is working and what needs to be modified (Zehetmeier, 2015)

⁸. When considering other integrations into this infrastructure, one can think about setting up certain platforms that facilitate and possibly encourage knowledge sharing, cross-fertilization, etc. An example is the Teaching Support Website.

3.2 Policy and Governance

Addressing policies and governance frameworks to assist educational innovation (initiatives) is the second pillar of a framework to improve the ecosystem of educational innovation. This subchapter will go over issues around scaling, workload, and contractual issues.

3.2.1 Policies and procedures for scalability

A first theme that emerges as needing attention is the potential for scalability of innovation initiatives. Currently, there is a lack of clear policies and procedures to provide a next step for good ideas that arise on a small scale (i.e. within (departments of) faculties). The absence of standardized processes could lead to innovation initiatives not being taken forward, or even discontinued.

An example of this can be found in the Science Skills Platform (SSP), a digital learning environment designed by the Faculty of Science. The SSP was first established by a single program that was able to obtain funds but, as a result of its success, further funding and support were provided by all academic programs. Currently, it is reimbursed by the faculty. Interest in the SSP exists within a plurality of departments within the university. It is considered very valuable. However, the current design and funding structure complicate expanding this initiative on a larger scale. The absence of standardized procedures for scaling up results in a disconnect between the product and meeting its demand ⁹.

⁹. Grassfields is potentially able to fill (part of) this gap.

Actionable steps:

1. Scaling framework: establishing guidelines and procedures that support the scalability of such innovative initiatives may be vital to resolve this. This is also emphasized in the literature: without appropriate resourcing endeavors and creating institutional factors promoting sustainability of innovation, innovation could struggle (Guerra & Costa, 2021; McCowan et al., 2022). By taking these steps, the university can make sure that initiatives with potential, like the SSP, are not just maintained but also scaled to serve a larger population. This strategy may contribute to bridging the gap between creative ideas and realizing their full potential.

2. Centralized fund (related to step 1): set aside funds to further develop/broadly roll out successful (pilot) initiatives. The establishment of Grassfields (see Chapter 1) is a step in this direction since the fund is intended for scaling up successful innovations, leading to their adoption across all faculties. It remains to be seen to what extent this fund will be able to fill the gap.

3.2.2 Addressing workload and professional development

The biggest obstacle preventing lecturers from actively engaging in educational innovation mentioned in the interviews is in the considerable workload faced by lecturers. This often leaves insufficient time to look critically at the further improvement of themselves or their courses. This encompasses not only course innovation, but also basic tasks like updating reading materials for students. By examining the literature on workload, it becomes clear that a workload which is too heavy is a predictor of reduced staff engagement (Bakker, Demerouti & Sanz-Vergel, 2014; Maslach, 2011). Bearman et al. (2024) state that staff engagement and staff motivation are prerequisites of the uptake of educational innovation. Moreover, they state that that “[h]aving time [emphasis added] and technical or logistic support is more critical to continued staff engagement than provision of grants and funds” (p. 11). This perspective implies that potential repercussions are at play if matters of workload and staff engagement are not thoroughly addressed in the process of adding intended improvements in educational innovation.

A further investigation reveals that in the context of technology’s application in teaching, professional development is necessary for many academics in order to enhance technological capacity (Gregory & Lodge, 2015, p. 214). The authors even refer to academic workload as “the silent barrier to the implementation of technology-enhanced learning strategies in higher education” (p. 210). Although varying between academic staff due to differing capacity and technological skills, professional development requires additional time. When educators believe that certain aspects of technology use are excessively time-consuming, this can provide a significant obstacle to the integration of technology into the classroom. If this matter is applied to the Leiden University context, it would mean there is a chance that the heavy workload affects the possibility (and possibly the willingness because of reduced staff engagement) of lecturers to develop themselves – in addition to following the mandatory UTQ and STQ modules – in line with the visions and goals of the university and their respective faculty (see e.g. the Vision on Blended Learning reports from faculties). This may also impact them acquiring the kinds of knowledge needed by a teacher for effective technology integration¹⁰, in turn affecting the feasibility of the university’s digitalization strategy as lecturers may struggle to keep up with evolving technology and teaching practices. Thus, while not neglecting the complications related to alleviating the burden of heavy workload, it is evident that the matter should be addressed accordingly in the process of innovating and professional development.

3.2.3 Contractual issues

The other obstacle that has been mentioned as hindering lecturers’ ability to engage in educational innovation is contractual issues. Contractual issues refer to the fact that a cohort of lecturers are on a temporary contract instead of a permanent one. Although the perceptions of lecturers on temporary contracts were not investigated in this research project, the literature provides several reasons to address such issues in the innovation process.

¹⁰. Referring to the TPACK model.

Contractual matters within the university context are a topical issue. Although the amount of permanent contracts among lecturers has increased (Universiteiten van Nederland, 2023), there are still many lecturers, particularly lower down the academic ladder, for whom this is not the case (AOB, 2022). This could raise concerns as a temporary contract is by nature related to increased job insecurity as the threat of job loss increases (Kinnunen, Mauno, Nätti, & Happonen, 2000). Job insecurity appears to have an effect on the organizational commitment of employees (Lee, Huang & Ashford, 2018; Lumingkewas et al, 2019; Moshoeu & Geldenhuys, 2015), which refers to the psychological bond that employees have with the organization, its objectives, and their willingness to stick with the organization (Pieters, Van Zyl, & Nel, 2019). Temporary contracts could furthermore lead to increased staff turnover, which potentially diminishes employee commitment as well as their knowledge and abilities in day-to-day work (Prenger et al, 2022).

The reliance on temporary contracts and the possible consequences on organizational commitment and staff turnover raise the question of how university management ensures the staff commitment to strategy and long-term professional and course development. Lecturers on temporary contracts may prioritize short term teaching goals instead of long-term program development and advancement. A climate of undesirable staff turnover and low commitment does not aid the stable and collaborative academic culture necessary for meaningful educational improvements. Therefore, addressing contractual issues is critical in order to maximize the potential of their academic staff and drive educational innovation.

Actionable steps:

- 1. Emphasize the significance of continuous support.** The TSDs of each faculty play a crucial role in this support. It is essential, however, that this support reaches a certain level of customization in the future. As previously pointed out, most faculties have indicated that having a good overview of what all lecturers do is a challenge. This indicates that it is not necessarily clear to TSDs what different cohorts of lecturers need. Given that academic staff need varying degrees of time to develop and support in integrating educational innovation, this can lead to challenges. The ways in which this could be mapped are multiple. Taking surveys, conducting focus group sessions or integrating (other) feedback mechanisms could be examples of first steps in the direction of improving this assessment.
- 2. Professional development time:** it may be valuable to seriously consider the idea of development time for teachers. Allocating time for professional development can help lecturers feel less stressed about their workload and give them more time to concentrate on their own development as well as that of their course(s). This time may be utilized to, for example, work on innovative projects, attend courses or simply sit down and take a critical look on a course, all of which would promote a culture of development.

- 3. Clarity on alignment between strategy and individual activities:** in order to align individual activities with university strategies, it's essential to take care of healthy working conditions and have an understanding of how occupational changes (either positive or negative) due to changing strategic directions, will impact day-to-day work of lecturers. Ensuring alignment between these components requires changes that recognize the realities of lecturers' working conditions and provide the support required to close the gap between daily operations and overarching institutional objectives.

Concluding Remarks

The aim of this research project was to outline how the landscape of educational innovation within Leiden University is structured. Drawing on 16 interviews with internal stakeholders, publicly accessible information on the website of Leiden University as well as documents obtained from stakeholders, it can be concluded that the landscape of educational innovation is characterized by both opportunities and challenges. There are specific areas where improvements are not only identifiable, but also attainable to various degrees.

To begin with, in the first chapter it appeared that various internal and external funds exist that serve as resources for lecturers to engage in educational innovation. The variety of funds meet the demands of different cohorts of lecturers (i.e. large-scale or small-scale projects) and serves both lecturers who are more and less familiar with the topic. The diverse case studies mentioned show how the grants contribute to advancements in teaching practices and teaching quality, how technology is successfully integrated in teaching, and how innovations meet contemporary educational needs. Outstanding challenges remain that:

1. Not every faculty has grants that serve the purpose of developing small-scale projects. This is not to say that innovating in teaching is not made possible. Grants, however, have proven to be an incentive for a cohort of lecturers to engage with the topic and work on desired teaching innovation projects.
2. Not every lecturer might feel eligible to apply for grants. At faculties without internal grants, lecturers are more likely to be tied to central or external funds that tend to be for more large-scale projects.

The second chapter showed that grants are not the only resource lecturers can utilize for innovating their teaching. A plurality of enablers exist within faculties that aid lecturers in this process. These enablers do so through offering technical and logistic support (TSDs). They also create inspirational environments where experiences are shared and knowledge dissemination and community building are fostered (events and teacher platforms) as well as where experimentation and innovative teaching methods are facilitated (unique access opportunities). The enablers prove to be a vital contribution to existing funds by providing additional opportunities for lecturers to innovate their teaching, possibly resolving part of the two aforementioned outstanding challenges.

The third chapter revealed topics that are up for improvement. The first section portrayed how better connecting innovation throughout the university potentially builds the bridges between the separate faculties. Through better connecting TSDs, including a central knowledge partner and increasing visibility of educational innovation, enhanced knowledge sharing and collaboration can be realized. These measures lead to meeting faculties' needs as knowledge is increasingly shared and efficiency enhanced. In the second section, several topics were addressed that attention could be paid to in the process of advancing education. An attempt is made to outline why and how a lack of policies and procedures related to these topics could cause a barrier to innovation, potentially causing gaps between strategy and daily operational activities. Through taking this into account, alignment between strategy and operations can better be ensured.

This research project knows various limitations. Understanding (the governance of) educational innovation within a large institution is complex. The perspectives on the topic in terms of, for example, its current state and directions vary. This complicates the analysis (also taking into account the available time to conduct this project). Such complexity is mainly visible in the last chapter. The question of how to improve the existing ecosystem holds various points of departures and is a big and difficult question to answer in general. As far as possible I have tried to incorporate the variety of topics that are up for improvement, as were mentioned in the interviews with people from within

the faculties. Although hinted at a couple of times, a perspective that is left out but is equally important is that of lecturers themselves: how do they perceive the current state of educational innovation in the university and how do they relate to it? It is recommended that future investigations into this topic place a larger focus on this than has been done in this project. This question holds the advantage of getting a better understanding of the (dis)alignment between university strategies and daily work activities of lecturers. In conclusion, even though this project has illuminated a number of aspects of educational innovation within Leiden University, further exploration, particularly of lecturers' perspectives, is necessary for a more comprehensive understanding of the matter as well as the making of meaningful progress.

References

- Algemene Onderwijsbond. (2022). Toename tijdelijke contracten is AOb doorn in het oog. <https://www.aob.nl/actueel/artikelen/toename-tijdelijke-contracten-is-aob-doorn-in-het-oog/>
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and work engagement: The JD-R approach. *Annual Review of Organizational Psychology and Organizational Behavior*, 1, 389–411.
- Bearman, M., Chandir, H., Mahoney, P., & Partridge, H. (2024). Sustaining teaching and learning innovations: A scoping review. *Higher Education Research & Development*, 1-16.
- Dekker, T., & Feijs, E. (2005). Scaling up strategies for change: Change in formative assessment practices. *Assessment in Education*, 12, 237-254.
- Fuad, D. R. S. M., Musa, K., & Hashim, Z. (2020). Innovation culture in education: A systematic review of the literature. *Management in Education*, 36(3), 135–149.
- Gregory, M. S.-J., & Lodge, J. M. (2015). Academic workload: The silent barrier to the implementation of technology-enhanced learning strategies in higher education. *Distance Education*, 36(2), 210–230.
- Guerra, C., & Costa, N. (2021). Can pedagogical innovations be sustainable? One evaluation outlook for research developed in Portuguese higher education. *Education Sciences*, 11(11), 725.
- Khatri, R. (2018). A model for propagating educational innovations in higher STEM education: A grounded theory study of successfully propagated innovations [Doctoral dissertation, Western Michigan University].
- Kinnunen, U., Mauno, S., Natti, J., & Happonen, M. (2000). Organizational antecedents and outcomes of job insecurity: A longitudinal study in three organizations in Finland. *Journal of Organizational Behavior*, 21, 443–459.
- Kottman, A., Schildkamp, K., & van der Meulen, B. (2024). Determinants of the Innovation Behaviour of Teachers in Higher Education. *Innovative Higher Education*, 49, 397-418.
- Lee, C., Huang, G. H., & Ashford, S. J. (2018). Job insecurity and the changing workplace: Recent developments and future trends in job insecurity research. *Annual Review of Organizational Psychology and Organizational Behavior*, 5, 335–359.

- Lewin, S., Booth, A., Glenton, C., Munthe-Kaas, H., Rashidian, A., Wainwright, M., et al. (2018). Applying GRADE-CERQual to qualitative evidence synthesis findings: Introduction to the series. *Implementation Science*, 13, 1-10.
- Lumingkewas, C. S., Nimran, U., Raharjo, K., & Utami, H. N. (2019). Effect of job insecurity on organizational commitment and intention to leave. *WACANA: Jurnal Sosial dan Humaniora*, 22(4), 256–260.
- Maslach, C. (2011). Burnout and engagement in the workplace: New perspectives. *European Health Psychologist*, 13, 44 –47.
- McCowan, T., Omingo, M., Schendel, R., Adu-Yeboah, C., & Tabulawa, R. (2022). Enablers of pedagogical change within universities: Evidence from Kenya, Ghana, and Botswana. *International Journal of Educational Development*, 90, 1-10.
- Moshoeu, A. N., & Geldenhuys, D. J. (2015). Job insecurity, organizational commitment, and work engagement among staff in an open distance learning institution. *Southern African Business Review*, 19(1), 22–43.
- Peters, J. (2011). Sustaining school colleagues’ commitment to a long-term professional experience partnership. *Australian Journal of Teacher Education*, 36, 16–30.
- Pieters, W. R., Van Zyl, E., & Nel, P. (2019). Job attitudes as a predictor of work engagement of the lecturing staff at the University of Namibia. *SA Journal of Human Resource Management*, 17, 11.
- Puylaert, R. (2023). Forse stijging vaste contracten aan Nederlandse universiteiten. *Universiteiten van Nederland*. <https://www.universiteiten-vannederland.nl/actueel/nieuws/forse-stijging-vaste-contracten-aan-nederlandse-universiteiten#:~:text=Met%20name%20binnen%20de%20functiecategorie%C3%ABn,2021%20naar%2020%25%20in%202022>
- Stringfield, S., Reynolds, D., & Schaffer, E. C. (2008). Improving secondary students’ academic achievement through a focus on reform reliability: 4- and 9-year findings from the High Reliability Schools project. *School Effectiveness and School Improvement*, 19, 409–428.
- Zehetmeier, S. (2015). Sustaining and scaling up the impact of professional development programmes. *ZDM – The International Journal on Mathematics Education*, 47, 117–128.
- Universiteit Leiden. (2018). Onderwijsvisie: Learning@LeidenUniversity. https://www.universiteitleiden.nl/binaries/content/assets/ul2staff/onderwijs/beleid-aanbod-en-visie/onderwijsvisie-learning-at-leidenuniversity_nl_sept2018.pdf

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