NHL STENDEN
university of applied sciences

Working and learning in ateliers

An impression of the variation and added value

What are we aiming for with our ateliers?

What are some interesting examples?

What can we learn from our experiences?

Made possible by Quality agreements

Colophon

Title
Working and learning in Ateliers.
An impression of the variation
and added value

Organisation
NHL Stenden

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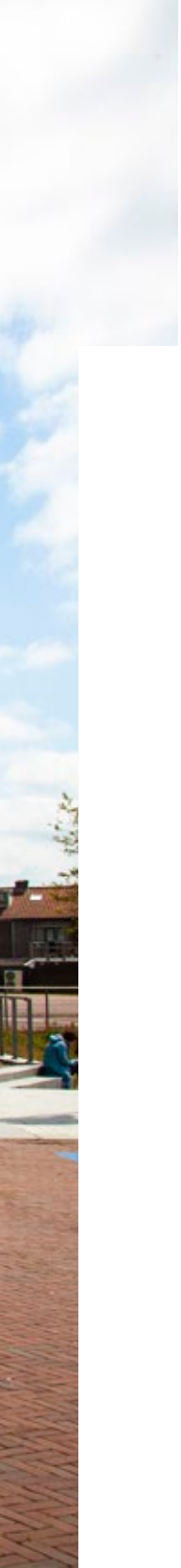

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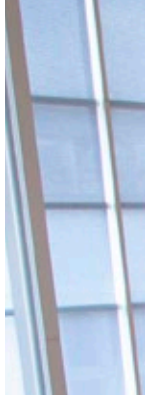


Introduction

NHL Stenden's mission: working on world-wise innovation

At NHL Stenden, it is our mission to contribute to the personal development of students and to the social progress of the regions in which we operate by offering inclusive, high-quality education and research. Working and learning in so-called ateliers[1] is one of the ways to achieve this. In these ateliers, education and practice are highly intertwined; working and learning go hand in hand.

Working and learning in ateliers is a characteristic part of NHL Stenden's educational concept: Design-Based Education (DBE). Since the merger in 2018, we have been working on the implementation of DBE; we have been gaining experience in teaching in ateliers. As a University of Applied Sciences (UAS), we decided that from year 1, our students will work in an atelier part of the time. The ateliers are a regular part of the curricula. This distinguishes us from other institutes.

Nowadays, we offer a rich diversity of ateliers. There are ateliers aimed at students of a specific programme, institute-wide ateliers, and even cross-institutional ateliers. These ateliers are located within our buildings, in the work field or on other external locations. Appropriate to a broad university of Applied Sciences, there is a large variety of themes and issues that are addressed in the ateliers.

The first 'Atelier Book' was published in 2019 (Joore, et al., 2019). It is now several years later, and we've since created many new ateliers. In addition, we have more experiences we want to share. The over 30 portraits in this new atelier book enable us to showcase the richness and variety of the ateliers within our University of Applied Sciences[2].

The portraits are divided into the ateliers at the NHL Stenden locations, external ateliers and ateliers where the facilities are a key factor. These portraits show the issues that are being worked on, the collaboration with the work field and researchers, and the added value of the ateliers. We hope to inspire and invite colleagues and other parties to collaborate.

This atelier book also contains several in-depth articles on working and learning in ateliers. The contribution in Chapter 1 is about what we, as NHL Stenden, aim to achieve with our ateliers. The chapter describes how ateliers can vary, and it describes some experiences. Chapter 2 contains the portraits, and Chapter 3 presents the 'Atelier Value Creation Model' and a design dimensions model. Both offer help to design and evaluate ateliers. In Chapter 4, we zoom in on the effects of the physical space on learning, and in Chapter 5, we look at the results of (ongoing) research into ateliers.

With these in-depth articles and research on ateliers, we want to contribute to the further development of our education in ateliers and to NHL Stenden's education policy. We conclude this atelier book with some reflections and recommendations.

Corrie Sinia, Quality Agreements Coordinator, theme 1
Migchiel van Diggelen, lector Design Based Education

[1] The term Lab is also widely used within our UAS.

[2] Some of the ateliers were part of the 2019 atelier book; these texts have been updated.

1. Ateliers within Design-Based Education

Learning and working in ateliers is a characteristic part of NHL Stenden's Design-Based Education (DBE) educational concept. We have been working on the implementation of DBE ever since the merger in 2018 and have been gaining experience in teaching in ateliers. But what do we want to achieve with teaching in ateliers? And what is happening in practice?

1.1. What are we aiming for with our ateliers?

The NHL Stenden Strategic Education Policy (Bakker & Sinia, 2018) defines an atelier as:

> 'A learning and working environment that facilitates and triggers active and collaborative learning. Education in ateliers is focused on learning by doing, learning from experiences.'

The idea is that in an atelier, students, teachers, the work field and/or researchers work together on real-life issues. This creates a valuable dynamic, leads to valuable results for the work field and/or society and motivates the students. Those involved in the atelier work together and learn from and with each other. The participants in an atelier work according to an iterative process inspired by Design Thinking. The question is explored, and possible solutions are generated and tested. There is room for experimentation, gathering feedback and learning from experiences. Of course, in addition to working in ateliers, students also participate in workplace learning and/or internships.

Basic elements of an atelier are:

- Working on real-life issues;
- Co-creation of education, work field and research;
- Working together in (multidisciplinary) teams;
- Learning from and with each other (learning community);
- Working using an iterative design process.

1.2. What is happening in practice?

Within NHL Stenden, we have a variety of ateliers partly due to the fact that we work with ateliers from year 1.

The atelier as part of a module or minor

Many ateliers are part of a module or minor, where the part of working and learning in the atelier can vary considerably. In the left-hand variant, education aimed at, for instance, acquiring specific knowledge and/or skills takes place alongside the atelier. In the right-hand variant, all education takes place in the atelier. The position of the atelier has consequences for the organisation of the atelier, education and assessments.

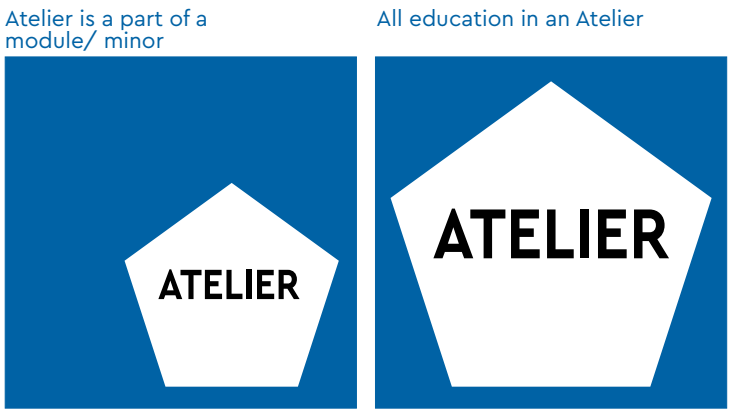
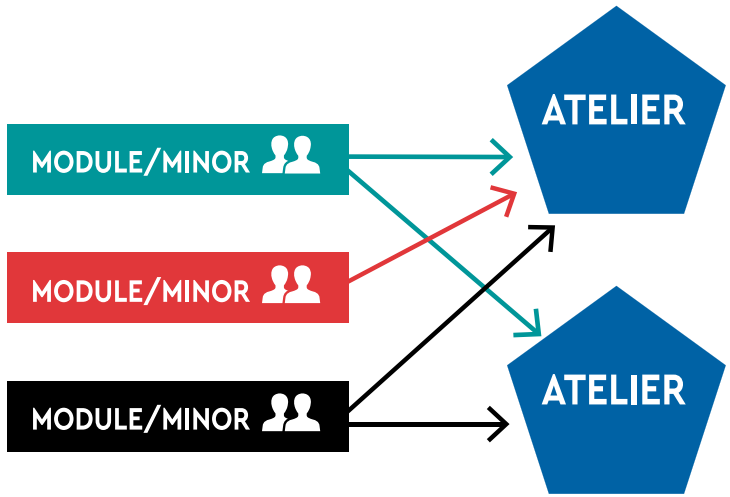


Figure 1: Atelier as part of a module/minor

Atelier as an open learning environment

We also have ateliers where students from different programmes, minor courses and/or institutes can participate. These ateliers focus on matching the learning objectives of the different students with the practical problems that are being handled. Through interdisciplinary collaboration, participants will come up with richer solutions.



In general, the percentage of education in ateliers increases during the programme. A well-structured curriculum and a logical structure of the types of ateliers within that curriculum is essential. We are seeing a slight increase in the number of ateliers that go beyond the scope of the programme and academy. This requires a willingness to bridge beliefs about education and cultures. Practical issues such as funding and scheduling can make it challenging to work together.

1.3. How are our ateliers different?

Below, we briefly discuss some of the features of the ateliers described in the next chapter, in the descriptions of the ateliers and the so-called 'atelier passports'.

Programmes and students involved

Collaboration practice

Collaboration research

Objectives ans results

Location and facilities

1.3.1. Themes and problem types

As a UAS with a wide range of programmes, we have ateliers in all areas, from healthcare to technology, education to safety. The reasons for creating an atelier may differ; it could play into a desire put forward by the programme or the work field or the need to respond to urgent societal issues. We think it is essential that an atelier has a clear (content) profile and is recognisable for students and the work field. In practice, we see that some ateliers have a specific content focus, often determined by the programme; others choose a broad profile with room for various issues.

Many ateliers work on real-life issues that a client has submitted. The problems are the trigger to co-creation and learning together. As a rule, the more authentic an issue, the more motivating it is for the students. Sometimes, we work on a constructed issue that may have derived from an earlier real-life problem. Due to security reasons or ethics issues, in some cases, we are required to use case histories or semi-authentic issues. The degree of authenticity and complexity also depends on the stage of the programme and the level.

In practice, we see various real-life cases, practical assignments from actual clients and complex so-called 'wicked problems' involving multiple parties. The terms 'issues' and 'assignments' are used interchangeably. In the case of an assignment, the direction of the solution and the approach are often more specified. Issues generally offer more room for discovering the 'problem', devising a solution direction and choosing a particular approach.

1.3.2. Programmes and students involved

Ateliers are aimed at students of their own programme or are open to students from other programmes or institutes (for example, through 'Kies op Maat'). Ateliers of minor courses are more likely to have a broader influx. The number of ateliers involved in collaboration across programmes and academies is growing steadily. There are many

challenges for the collaboration that crosses the boundaries of the programmes, academy or even the institute, such as bridging cultural differences, beliefs about education and the way of organising.

The extent to which students and others involved work together can vary. In multidisciplinary collaboration, disciplines work together and align with each other. Participants work side by side and divide the tasks. When knowledge and methodologies from different disciplines are integrated to achieve a result jointly, this is called interdisciplinary collaboration. Transdisciplinary collaboration leads to new knowledge or shared methodologies. The question is what level of collaboration is envisaged and achieved in an atelier.

1.3.3. Collaboration practice and research

The collaboration between government, entrepreneurs and research and education is also called the Triple Helix[3]. This collaboration can be realised in various ways: through workplace learning, projects and internships, and through working and learning in an atelier.

We strive for sustainable collaboration and partnerships where the partners value the learning process, not just the outcome. This creates a common responsibility for the training of professionals.

The extent to which the industry or researchers are involved varies. Clients often present their issues, give intermediate feedback or are present for the final presentations. Students also visit the clients. Clients are not just interested in 'solutions' but also in the good ideas from young people. They are regularly surprised by the students' interesting perspectives. Research groups are often clients.

In the case of external ateliers, the collaboration is often more sustainable and the collaboration with the work field and researchers is often more intensive. Better knowledge development can often be achieved through collaboration with research partners.

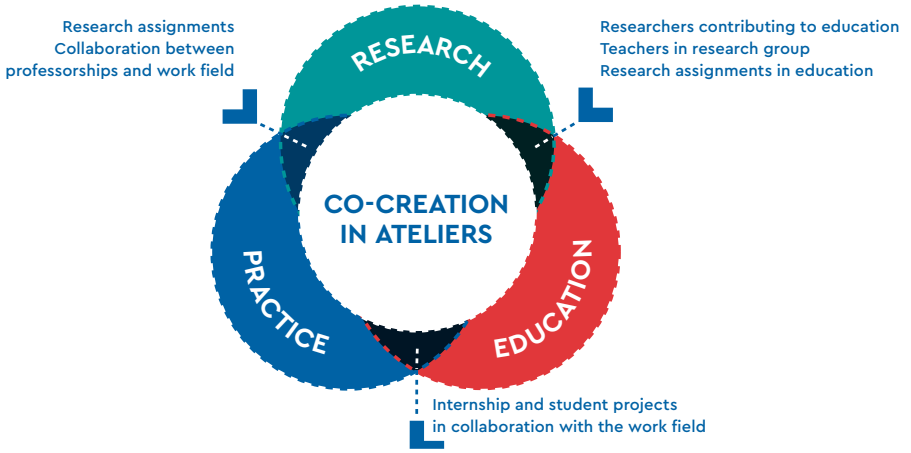


Figure 3: Co-creation of education, practice and research

1.3.4. Objectives and results

As a UAS, we want to contribute to students' personal and professional development and societal progress in our environment. An atelier is an environment where people can potentially work on both of these goals. The intended objectives and results are an important factor in determining the layout of the atelier.

Many 'programme ateliers' focus on the development of the student. In addition, these often work on developing interesting prototypes and/or solutions for a specific client. There are also ateliers who want to contribute to societal issues such as the Sustainable Development Goals and/or are focused on the development of widely employable knowledge. In the 'Ateliers Value Model', we have arranged the values/results of ateliers from the micro level to the macro level. (see Chapter 3)

[3] There is also a quadruple and even quintuple variant where more parties have been added, and the process is more geared towards open innovation, sustainability and societal impact.

1.3.5. Location and facilities

The working and learning in ateliers takes place inside and outside NHL Stenden. Some 'internal' ateliers are designed for specific programmes and have their own identity. In addition, the general education room is also scheduled for atelier hours. We also have ateliers within our buildings that are arranged around specific facilities or equipment.

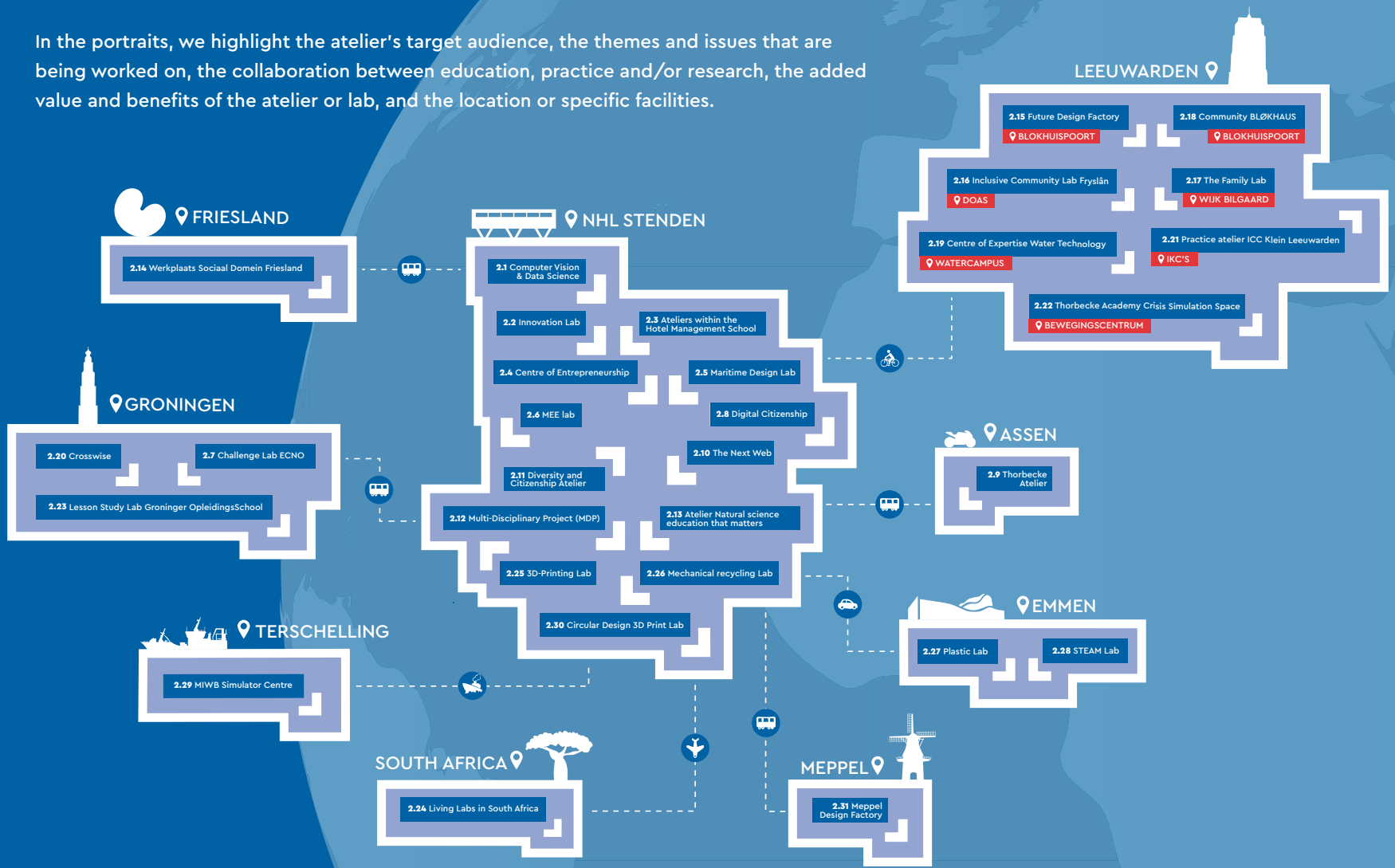
NHL Stenden also rents external atelier rooms, for example at the Blokhuispoort and in the Oude Ambachtsschool (DOAS) in Huizum. This will allow those involved in the atelier to have more control over the rooms and their use. There are also ateliers at municipalities, community centres, daycare centres or other institutions.

The pandemic has taught us that, in addition to a physical environment, it is important to provide good support through a digital teaching environment.

2. Portraits of our ateliers

Through portraits of more than 30 Ateliers and Labs, we showcase the wealth and variety of the ateliers within our UAS. The portraits are classified into ateliers at the NHL Stenden locations, external ateliers and ateliers where the facilities are a key factor.

In the portraits, we highlight the atelier's target audience, the themes and issues that are being worked on, the collaboration between education, practice and/or research, the added value and benefits of the atelier or lab, and the location or specific facilities.



2.1. Computer Vision & Data Science

Advanced image recognition with artificial intelligence, hyperspectral cameras and supercomputer

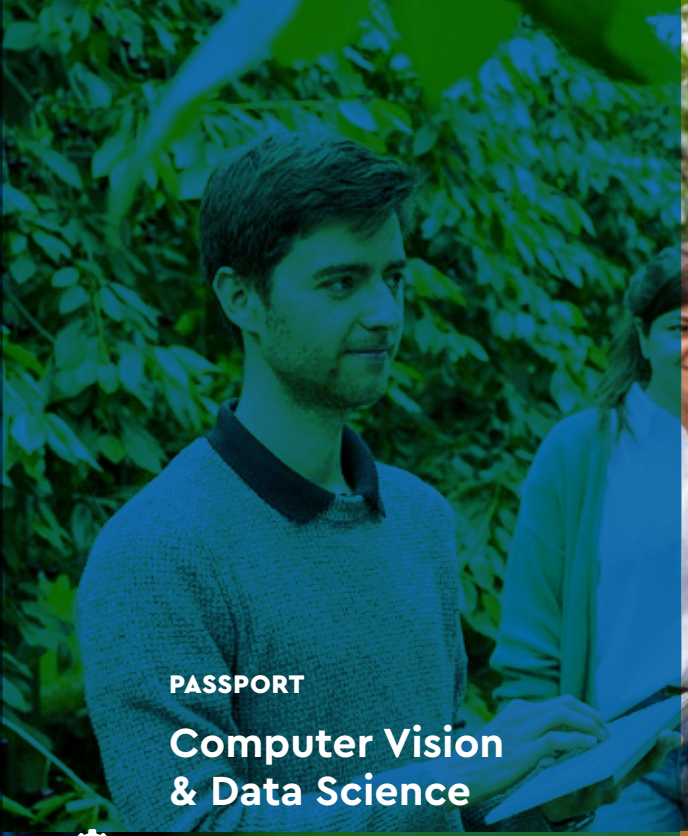
The Computer Vision & Data Science professorship is housed at the Ring of Rengerslaan 10. Surrounded by special computers and cameras, the minor and master students, researchers and business partners work here on research projects.

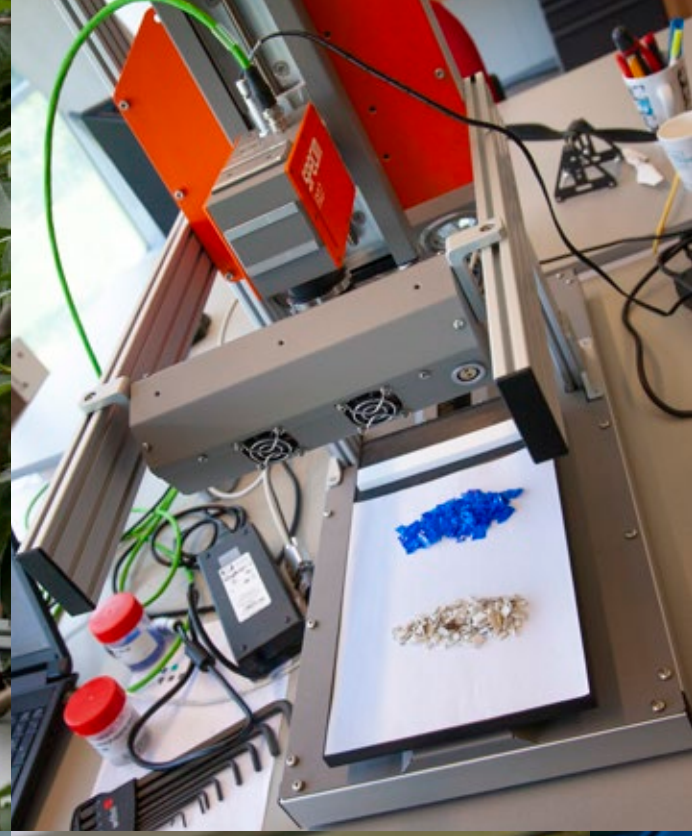
The professorship consists of a team of 8 people, led by Klaas Dijkstra, professor of Computer Vision & Data Science. The professorship translates scientific research in image analysis and artificial intelligence into practice for customers ranging from small local entrepreneurs to large international companies. They do this for a broad range of industries, from security and precision farming to industrial automatization, medical applications and mobility.

In this atelier, students working on their (graduate) internship or minor and master assignments work closely together. Each semester, the minor and master Computer Vision & Data Science courses have room for 45 students. The students work closely with the researchers; they carry out state-of-the-art applied research and use the DBE method to design software prototypes. At the end, the students write a paper and give a presentation to external stakeholders during the Technology & Innovation conference.

The professorship has an extensive range of cameras used in research, one of the most comprehensive collections in the Netherlands. The hyperspectral cameras, in particular, are considered the collection's crown jewels. With its high-performance computer cluster, the professorship has a vast amount of memory and powerful graphics cards, which are used for image analysis through artificial intelligence.

Since its creation, the professorship has carried out hundreds of projects for the business community. In 2016, the professorship won a HIT award, and in 2023, the LC Award.





PASSPORT

Computer Vision & Data Science

High tech camera's and deep learning

Minor Computer Vision & Data science and Master Computer Vision &Data Science

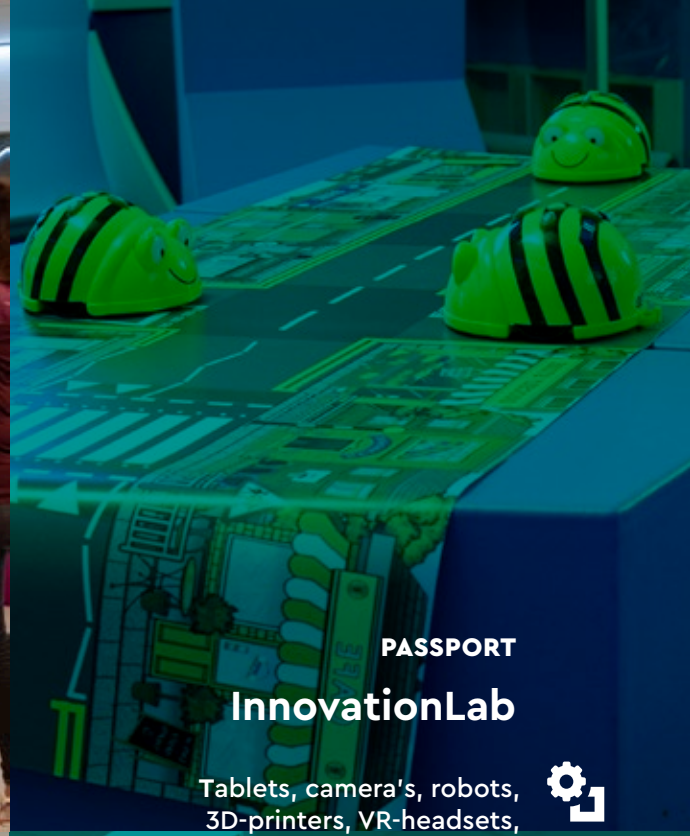
Professorship Computer Vision & Data Science

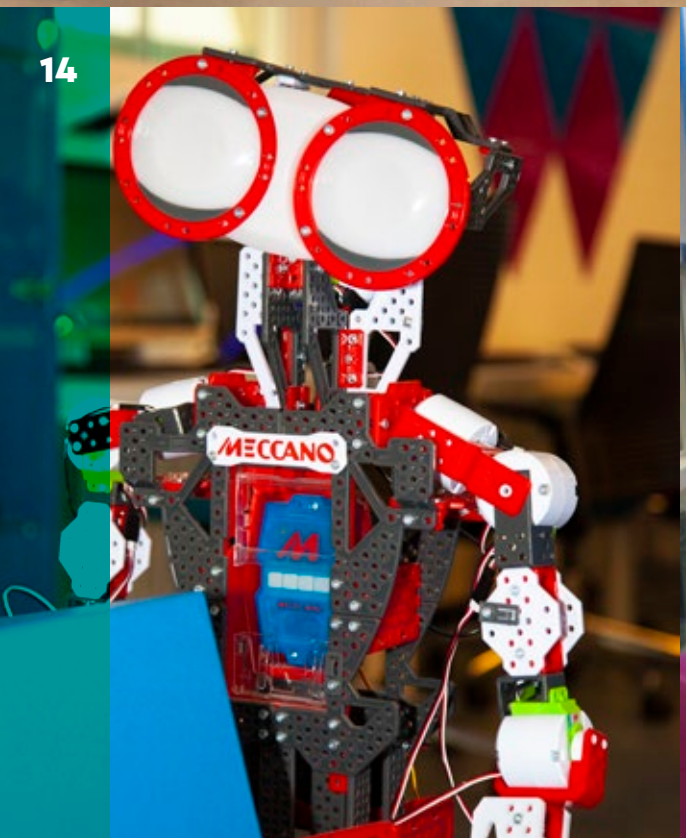
Close collaboration with the industry

Paper, poster, presentation and prototype.

Website
www.cvds-nhlstenden.com

Contact
cvds@nhlstenden.com





PASSPORT

InnovationLab

Tablets, camera's, robots, 3D-printers, VR-headsets, AR-technology

Two minors; iMinor & Educating the World

Collaboration with schools network in the region, International collaboration with partners in primary, secondary and higher education

Professorship Vocational Pedagogy, Professorship Design Based Education

Application and development of digital learning tools such as MySchoolsNetwork, online intervision tool, online portfolio tool, UDL tool

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A.1018
RENGERSLAAN 10
LEEUWARDEN

NHL STENDEN ATELIER

2.2. InnovationLab

Digital didactics in an international community of practice

The InnovationLab of the Academy of Teacher Education for Secundary Schools is located on the first floor, looking out over 'the pit'. The room is on a popular route and is easy to find. The first things that strike a visitor when entering this area are the room's bright colour scheme, the comfortable chairs and the cookie jar.

Since its inception in 2013, InnovationLab has been combining teaching with research and development. Students and teachers of the teacher courses know their way to the lab for everything related to the application of IT in education. It is a place to experiment with new technologies and work forms and where different digital educational platforms and tools are being developed and maintained. The InnovationLab is a sample atelier for Blended Learning and DBE.

DBE and Universal Design for Learning (UDL), a framework for developing accessible and inclusive education, form the basis for all the teaching developed and taught here.

The interior designers paid great attention to flexibility and comfort for the students. There are ergonomic chairs and a relaxing lounge corner, and all the furniture is easily moved around so that the room can be redesigned repeatedly.

The lab has a wide range of generally affordable tools and devices, such as miniature robots, tablets, cameras, VR headsets and various augmented reality applications that students can experiment with to their heart's content. Some of these are also available on loan for students on internships.

Every week, Monday through Thursday afternoons, the lab is open to people with questions about e-didactics or UDL. They can walk in for support or a brainstorming session without an appointment.

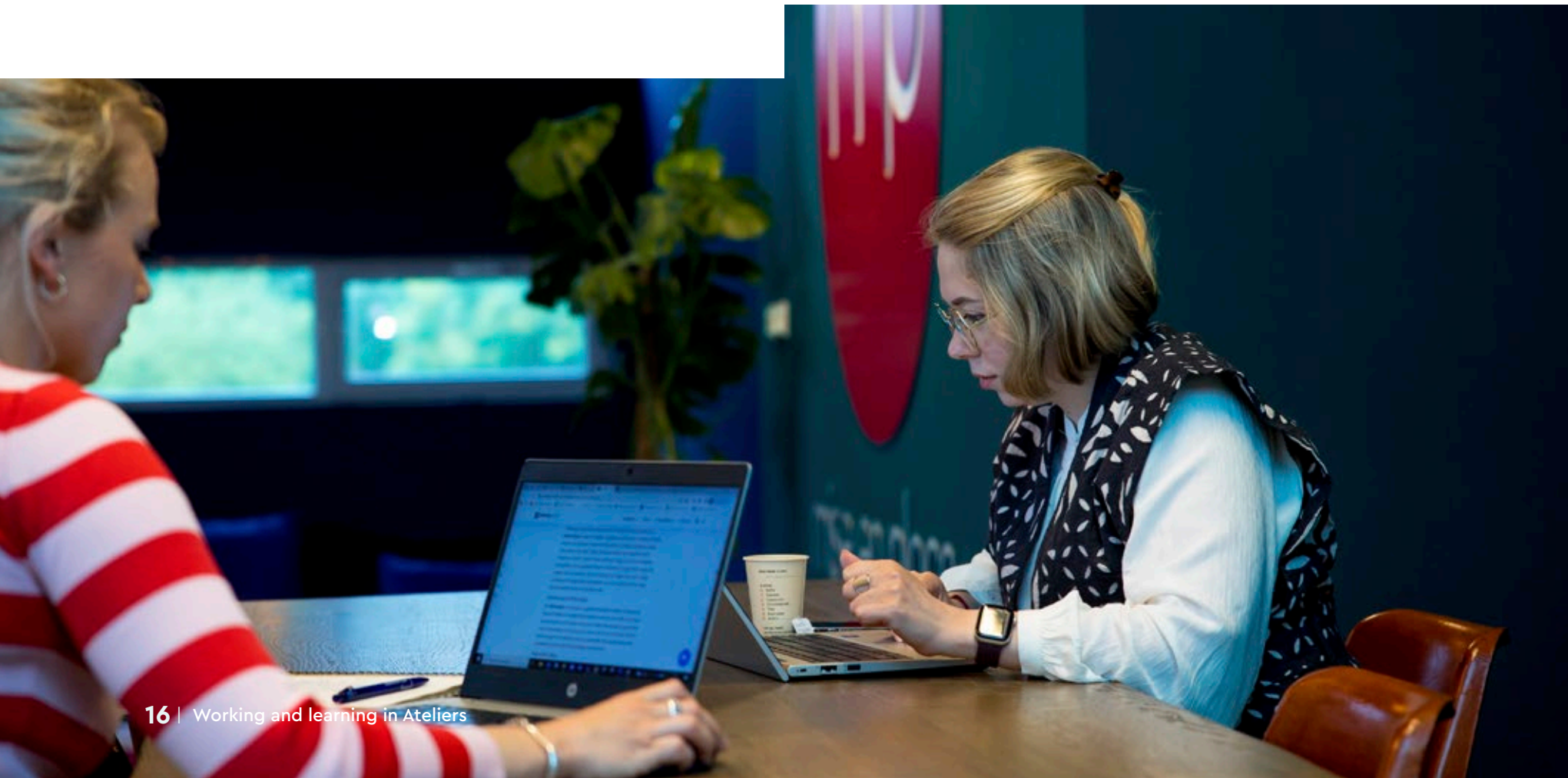
People working in the field also know their way to the InnovationLab. For example, school classes come to visit for inspiring sessions. Teachers are often amazed at how independently and enthusiastically their pupils get to work on the various challenges. That is also one of InnovationLab's objectives: to show teachers that IT is also accessible in the classroom.

In addition to digital didactics, the lab offers two minor courses: the iMinor, where students develop an educational multimedia product for an actual customer, and the minor Educating the World, where (international) students develop interactive teaching materials in an international setting. Both minor courses are wholly modelled on the principles of Design-Based Education.

The team consists of several permanent teachers and often one or more student assistants. Ambitions are abundant; they range from initiating and engaging in interesting national and international projects to developing new and inspiring ways to shape digital didactics.

2.3. Ateliers within the Hotel Management School

Our Hotel Management School houses several ateliers where students can meet a variety of Industry Partners. This book contains an impression of four of these ateliers. The remaining ateliers are the Smart Camels Atelier, Horeca TV Nederland Atelier and the Municipality of Leeuwarden Atelier.



2.3.1. Mise en Place Atelier

People as a priority

Hotel School students who want to know what their future will be like only have to visit the Mise en Place Atelier. The large images on the walls are impressions of potential workplaces. From Formula 1 to the Ziggo Dome, the Mise and Place temping agency ensures the perfect match between thousands of talented young professionals and many hotels, football stadiums, conventions and events.

For years, Mise en Place has been the top temping agency for hospitality professionals, with 15 branches in the Netherlands and Belgium. To inspire students at an early stage, Mise and Place Atelier opened its doors within our Hotel Management School in 2020. The atelier aims to show students future work opportunities and, above all, to shape that future within an inspiring workplace.

At Mise en Place, this inspiring space is more than just a physical place. The designers of the atelier paid a great deal of attention to the students' mental state. For example, they opted for colours that match the brain's different phases of alertness. For instance, green stimulates the brain to remember better what has been learned. Various minor courses use the Mise and Place Atelier, a lively breeding ground for students of different programmes and all years.

In addition to being a sought-after learning place, the Mise and Place Atelier is also a busy workplace where students work on real-life issues. As a member of the Hospitality Synergy Group, Mise and Place is closely connected to entrepreneurs in the hospitality industry. These partners regularly submit problems to the Hotel Management School students, who will look for answers using design thinking. Every solution is tested in practice to familiarise students with the work field.

Those connections with the work field are also clearly visible in the HotelloTOP. HotelloTOP is the ultimate network for students and alumni of the (inter)national Hotel Management Schools in the Netherlands. To support young 'Hotellos' in Leeuwarden in building a solid network for a career in the industry, Mise and Place Atelier regularly organises guest lectures by inspiring HotelloTOP alumni. For many alumni, these events are special, as they mark a return to their alma mater in Leeuwarden. All in all, Mise en Place Atelier is the best starting point for new talent in the hospitality industry.

C1.4.05 (HOTEL MANAGEMENT SCHOOL)
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NHL STENDEN ATELIER

PASSPORT

Mise en Place Atelier

Students Hotel Management School

Variety of partners from the hospitality, government and business sectors

Developing a network in the hospitality industry

Contact
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B1.01 (HOTEL MANAGEMENT SCHOOL)
RENGERSLAAN 8
LEEUWARDEN

NHL STENDEN ATELIER

PASSPORT

Leonardo Hotels Atelier

Students Hotel Management School

Collaboration on challenges from diverse hotel industry partners

Personal development in the hotel industry

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2.3.2. Leonardo Hotels Atelier

Stepping stone to real-life practice

Entering the Leonardo Hotels Atelier is like stepping into an actual hotel lounge. The two iconic chairs you see in every Leonardo Hotel are truly eye-catching. On the walls, there are images of extraordinary events and staff. This makes this atelier an inspiring workspace for future hoteliers where they get to address issues in their work field.

The name Leonardo Hotels is inextricably linked to the Hotel Management School. Many managers and hotel directors within the renowned international hotel group's ranks have their roots at the Leeuwarden Hotel School. Not surprisingly, Leonardo Hotels was very willing to have a direct presence within the walls of the hotel school through its own atelier space.

At the atelier, students work on real-life issues. This includes issues about hospitality, but the Industry Partners can also ask students to work with them on issues regarding facilities, sales or HR. For example, the Leonardo Royal Hotel Amsterdam challenged students in the atelier to solve the break-out room shortage. By creating smaller break-out rooms, the hotel strengthened its position in the international conference and event market.

One of the distinguishing features of the Leonardo Hotels is the opportunity they offer to gain knowledge in the fields of hospitality, sales, HR and marketing. During internship fairs, the hotel group discovered that hotel students nowadays are looking for a mix of multiple experiences during their internship. That is why Leonardo Hotels developed its own Tailormade Traineeship.

Students can divide their 10-month internship into two 5-month periods, during which they can choose from various combinations of food, sales, marketing, HR and hospitality. In addition, interns can make a 'big switch' in those ten months: they can work three days in a completely different department to get acquainted with all the disciplines within the hotel chain. The icing on the cake is a parallel programme with many training courses for personal development and leadership.

Within Leonardo Hotels, personal development and leadership are key topics. In the atelier, students get a taste of the available talent development opportunities through the Leonardo Hotels 'talent classes' that enable talented hoteliers to continue to grow within the chain. As such, Leonardo Hotels Atelier is a stepping stone into real-life practice for future talents.

2.3.3. Hostmanship Atelier

The next step in hospitality

The first atelier people see when they enter the hotel school building is the Hostmanship Atelier. The atelier's two big Chesterfield sofas invite visitors to enter. What stands out is the large, colourful wall displaying the book cover 'Hostmanship, the art of making people feel welcome'. And that is precisely the mission of this atelier.

The Hostmanship Group, the organisation behind the atelier, aims to introduce as many people as possible to the hostmanship philosophy: a different way of looking at encounters where human contact is paramount. This is a mindset ideally suited to the Hotel Management School, and it is why the Hostmanship Group has its own atelier within the hotel school building.

Every year, the Hostmanship Atelier welcomes thirty to forty students who have selected the minor course 'About hostmanship: creating purpose-driven human experiences'. In this course, they learn and experience how they can make others feel valued, seen and welcome in their role as hosts. At the heart of this is the purpose-driven element: it is all about creating meaningful encounters between people.

At the atelier, students work on a range of real-life issues. These issues are raised by various parties and range from challenges in the hospitality industry and healthcare to government issues. These are all relevant issues these parties face, and the added value of working on this is very high for these students.

One example is the municipality of Leeuwarden challenging students to provide input about bringing citizens into contact with council members. Students devised a plan to hold this meeting in a café setting, where the informal atmosphere creates an accessible, welcoming and relaxed place where citizens feel more comfortable to join in. This idea will soon be tested in practice, with students doing further research on this prototype idea and then developing it.

Striking is the large number of international students who choose the minor 'About hostmanship: creating purpose-driven human experiences'. This field is not only drawing interest from the typical hotel school students; students from the social domain are also increasingly getting involved. After all, their work field also focuses on creating meaningful encounters between people. The student learns the Hostmanship Mindset, and can take this as a starting point to design guest encounters with a wow factor. The atelier has developed the talent of giving someone the feeling of being welcome into a veritable art form.

B1.01 (HOTEL MANAGEMENT SCHOOL)
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NHL STENDEN ATELIER

PASSPORT

Hostmanship Atelier

Minor 'About hostmanship: creating purpose driven human experiences'

Collaboration with a variety of partners from the hospitality, government and business sectors

Developing a hostmanship mindset

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B0.23 (HOTEL MANAGEMENT SCHOOL)
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NHL STENDEN ATELIER

PASSPORT

Postillion Hotels

Students Hotel Management School

Collaboration with a variety of partners from the hospitality, government and business sectors

Developing skills in the hospitality industry

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erik-jan.ginjaar@postillionhotels.com

2.3.4. Postillion Hotels Atelier

Leading the way by doing things differently

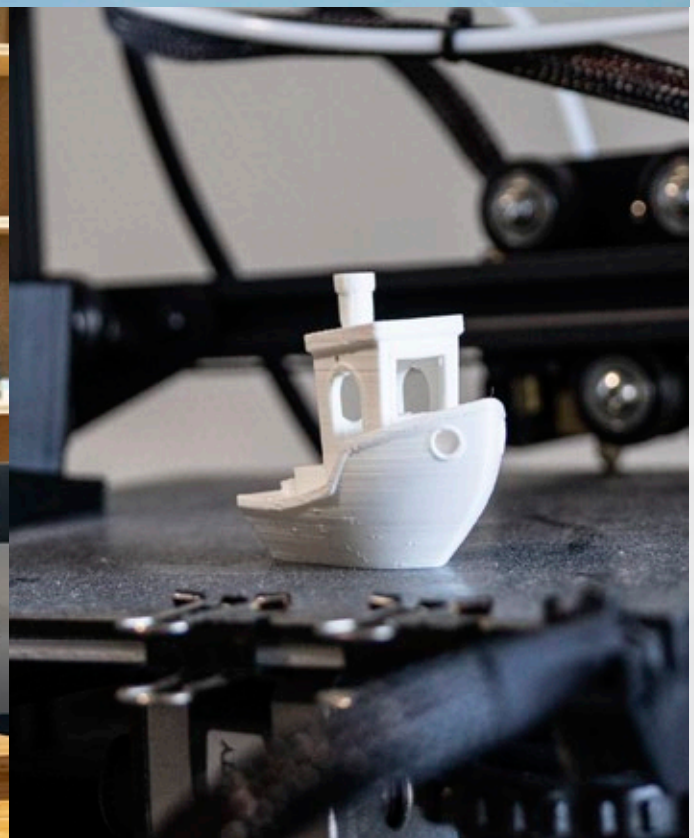
In 2020, the Postillion Hotels Atelier opened its doors within the hotel school. The atelier is fully equipped with equipment and materials that make up a 'conference room of the future', from a convenient brainstorming wall to a break-out room and from technology gadgets to lighting that can be tailored to personal needs. It fits in precisely with the mission of Postillion Hotels: leading the way by doing things just a bit differently.

In 2019, Postillion Hotels was one of the first chains to introduce artificial intelligence for its booking process. The time that staff members used to spend on writing quotations and booking reservations can now be spent on customers. This personal and distinctive approach characterises this national hotel chain with a strong international focus. The chain's unique character shines through in the atelier and how Postillion Hotels challenges the hotel school students.

Since 2020, Postillion Hotels has organised an annual hackathon for first-year NHL Stenden hotel school students to kick off the new academic year. During this hackathon, students work on real-life issues from the field while at the same time familiarising themselves with Design-Based Education. From developing an employment fair campaign to collaborating with The Good Roll on a campaign, students are challenged to work in groups on a surprising practical assignment.

During this opening week, Jeroen Kraak, founder of The Next Lab, ensures an inspiring kick-off. At the end of the week, all groups pitch their ideas. The customer realises the winning idea. This shows students how their plan is being put into practice.

With its presence at the start of the academic year and by offering a creative space in the form of an atelier, Postillion Hotels wants to inspire and motivate students for the hospitality industry. It is their way of extending a warm invitation to become part of the unique Postillion family.



PASSPORT

Center for Entrepreneurship

Students, teachers and staff NHL Stenden

Collaboration a.o. the Chamber of Commerce, Founded in Friesland, YnBusiness, municipalities, province of Fryslân, Friese Zaken, the NOM, VNO-NCW

Developing skills, sharing knowledge, inspiring & motivating, answering questions and encouraging entrepreneurship

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0.59
RENGERSLAAN 8
LEEUWARDEN

NHL STENDEN ATELIER

2.4. Centre for Entrepreneurship

A steppingstone for entrepreneurship

Research has shown that no less than 1,200 NHL Stenden alumni are self-employed. Add to that the teachers and employees with their own business ventures, and the number easily doubles. For all these enthusiastic entrepreneurs within the UAS there is the Centre for Entrepreneurship. This is the ideal place to acquire new knowledge, meet contacts and discover how studying and entrepreneurship are an empowering combination.

'How do we ensure that entrepreneurship permeates into the capillaries of our institute?' That was the question NHL Stenden students looked into and wanted to be documented in the Quality Agreements. In September 2020, a small platform was launched where student entrepreneurs could meet and inspire each other.

In the short span of 2.5 years, what once began as a small initiative grew into a vibrant hub for entrepreneurship. The Centre for Entrepreneurship is a meeting place for enterprising students, teachers, staff, and regional entrepreneurs. Any entrepreneur can walk into the Centre for advice or support.

From registering with the Chamber of Commerce to contacting international funding agencies, the Centre for Entrepreneurship helps entrepreneurs find the answers to their questions, great or small. In addition, the centre is a place where knowledge sharing plays a central role. For example, the centre regularly organises events and workshops and invites guest speakers who, in addition to information, provide inspiration.

From researching your customer profile to refining your pitch skills, the centre offers a rich palette of themes. The Centre for Entrepreneurship's offering is now included in the curriculum of seven programmes. The prototyping and target group research themes fit perfectly with the Design-Based Education concept, with the notable addition that all prototypes created within the Centre for Entrepreneurship actually find their way to the customer. That is why the centre itself refers to its education concept as DBE+, with entrepreneurship as the big plus.

To offer future entrepreneurs some financial support, the Centre for Entrepreneurship started its own fund: The Hayo Apotheker Fund. In a 'pressure cooker', students are given ten weeks to develop an idea into a sparkling start-up entrepreneurship. The winners will earn 2500, 1000 and 500 euros respectively to start their own business. This makes the Centre for Entrepreneurship a real stepping stone for successful entrepreneurship.

2.5. Maritime Design Lab

A safe harbour for the maritime professional

Traditionally, the design and innovation of ships and other floating devices have been a collective effort. In terms of the design process, this meant working in on-site drawing rooms, which were widely used at shipyards, design agencies and maritime programmes. The availability of a wide range of specialised software can sometimes lead to a tendency to approach the design and innovation process more individually. This is not always a desired effect because inspiration and new ideas are acquired in dialogues with other designers and domain specialists.

That is why, in 2021, the Maritime Institute Willem Barentsz (MIWB) created the Maritime Technology Atelier. Here, students, teachers and maritime companies can work together to develop the clean ships of the future.

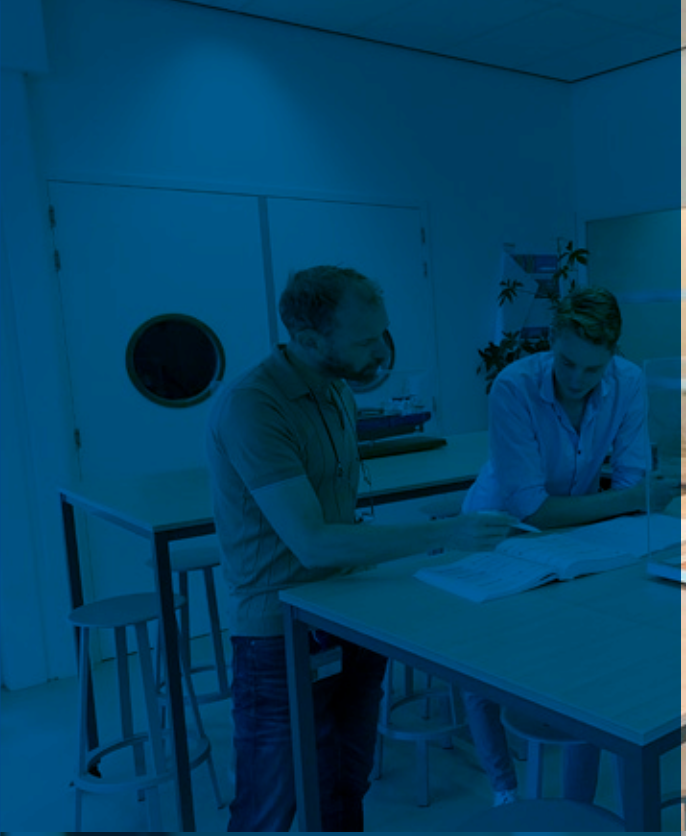
In addition, the atelier offers the space for (modest) physical test setups, such as a water flow basin that can be used to compare the results of calculations with the ship's behaviour in its natural element. The atelier also offers room for virtual models, such as the recently developed stability game - an educational game for developing more feeling for the stability of ships - that was evaluated by groups of students at the atelier.

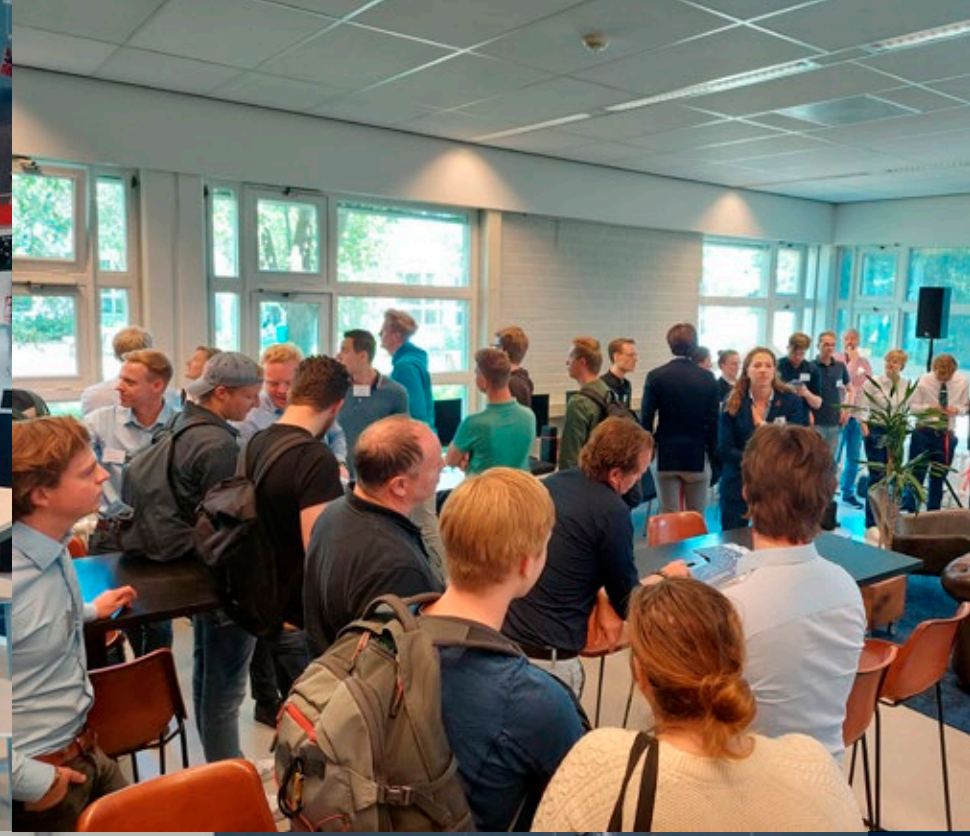
The atelier is also open to external industry partners, who are welcome for (guest) lectures and meetings. After all, the close involvement of maritime professionals brings theory and practice together. The professional organisation KNVTS, www.knvts.nl/, regularly organises lectures at the atelier. These lectures are open to the Maritime Technology students.

The atelier: the best place for group design activities

D0.023 EN D0.020
RENGERSLAAN 10
LEEUWARDEN

NHL STENDEN ATELIER





PASSPORT

Maritime Design Atelier

- Water basin for experiments with floating objects
- Students from all maritime programmes
- Connected to the Professorship Maritime Innovation Techniques; Collaboration with the professorships: Maritime Law, Maritime IT-Security, Computer Vision & Data Science and Serious Gaming
- Maritime sector, with a light focus on the northern region.

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2.6. MEE Lab

Co-creation as a starting point for an inclusive society

How can we stimulate innovation in the social domain and boost the self-reliance of vulnerable people? MEE Lab, a collaboration between MEE Noord and NHL Stenden, focuses on this question. In this lab, students, teachers and researchers from NHL Stenden, together with organisations and the target groups, are looking for ideas that contribute to an inclusive society.

For years, MEE Noord has supported people with mild intellectual disability, autism spectrum disorder or non-congenital brain injury. The MEE Lab started in 2020 and rapidly grew into a place where creative solutions for (complex) issues are being developed. Its work ranges from preventing recidivism in people with mild intellectual disabilities to offering tidying-up support to people with autism.

In addition to social programme students, students from other academies are also actively involved in the MEE Lab's design research. The work focuses on issues relevant to the partners in the work field. In addition to MEE Noord, these parties include organisations such as the Custodial Institutions Agency, the probation board, the support organisations Wender and Veilig Thuis, and people working at the municipalities, health insurance companies and housing corporations. The MEE Lab is the connecting link between the work field, education and research.

Co-creation is the common thread in every project that gets picked up by the lab. The target group is also an important partner; they are closely involved in testing and evaluating ideas and prototypes. The UAS has short lines of communication with Professor Job van 't Veer's Digital Innovation in Healthcare and Welfare professorship, and there is an atelier-wide collaboration with other ateliers such as the Werkplaats Sociale Domein Friesland and the Inclusive Community Lab Fryslân.

The MEE Lab aims to introduce students to the reality of their future professional practice during their programme through working on assignments within and outside the confines of the lab. This stimulates the implementation of Design Thinking, which is beneficial for the students and the work field. Partners in the work field are offered creative solutions that contribute to an inclusive society in which everyone can participate, taking into account diversity and talent, a mission that is interwoven in MEE Lab's DNA.

PASSPORT

MEE Lab

Students from the academies of Healthcare, Communication & Creative Business and Social Studies

Collaboration with organisations such as: Dienst Justitiële Inrichtingen, Reclassering, Wender, Veilig Thuis, municipalities, health insurers and housing associations.

Professorship Digital Innovation in Healthcare and Welfare

Developing creative solutions for complex issues

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Contact
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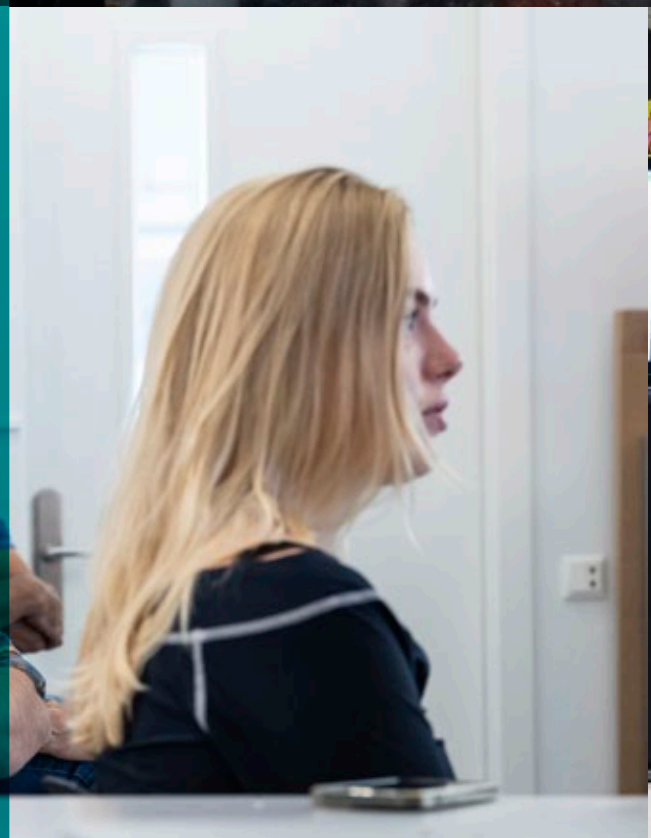

PASSPORT

ECNO Challenge Lab

Teacher education students

Part of the ECNO
Collaboration with the
Hanzehogeschool and
various educational organisations

Courses, training,
(educational) modules and
support for the professional field

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1.02 A+B
EEMSGOLAAN 17
GRONINGEN

NHL STENDEN ATELIER

2.7. ECNO Challenge Lab

Digital education with added value

Cabinets full of robots, VR glasses, 3D pens, green screens, and electronics building kits line the walls of the ECNO Challenge Lab in the NHL Stenden building at Eemsgolaan 17 in Groningen. This Walhalla of digital gadgets invites students from teacher education programmes and educational professionals from primary, secondary and professional education to apply digital tools in their teaching.

The Challenge Lab's door is always open to students. They can borrow items and use them in their lessons during their internships. The lab has thus become a sought-after area for inspiration, work and experimentation, where students discover the added value of IT in education. The lab focuses on three main themes: digital literacy, science & technology and research & design learning.

These three themes are ideal for a lab environment, where participants can work with all the available gadgets. Design thinking, gamification and curiosity learning go hand in hand here. In doing so, the lab not only focuses on future teachers but also shares the equipment and knowledge with current teachers from the work field.

Where one teacher effortlessly assembles a digital lesson, another needs more help and support. That is why the Challenge Lab offers tailor-made (in-company) tracks. To keep track of the digital literacy of a student or teacher, the lab uses micro-credentialing: digital badges that enable students and teachers to have validated proof of their skills.

In addition to students and teachers, the Challenge Lab regularly invites elementary pupils to a visit. During this lesson, they can experiment with everything in the cabinets. After all, you can never stimulate curiosity about IT too early. The underlying aim is to encourage the teachers' curiosity by showing them what is possible and how easy it is to use IT in their lessons. These sessions are hosted (in part) by the teacher education students.

Because of rapid technological developments, such as AI, and the growing focus on digital literacy, the Challenge Lab is increasingly becoming a centre of expertise for future and current teachers. The lab helps users to apply all these technological changes and new possibilities in their classrooms. The Challenge Lab's motto is 'embrace what is there and be critically curious'. But above all: 'take on the challenge!'

2.8. Digital Citizenship Lab

Expertise centre for digital citizenship

How do you safely investigate war propaganda and fake news during the war in Ukraine? How do you integrate themes such as digital citizenship and digitally responsible leadership in your module? How do you collect and analyse big data ethically? All these questions are addressed by NHL Stenden students, teachers and researchers at the Digital Citizenship Lab, making this lab a centre of expertise for digital citizenship.

The Digital Citizenship Lab focuses on sharing knowledge. In addition to the minor course Exploring Digital Citizenship, the lab regularly organises workshops or information meetings on specific themes, ranging from using open-source intelligence to recognising filter bubbles. In addition to its own students and colleagues, the Digital Citizenship Lab also focuses on collaboration partners outside the UAS. For example, members of the regional police department attended a workshop on responsible online research.

Student assistants are often the first point of contact for questions or advice. Researchers of the Organisations and Social Media and the CyberSafety professorships are also closely involved in the lab.
The goal is to jointly gather knowledge about the skills and tools we need to participate fully in the current digital society.

To support students, teachers and researchers, the Digital Citizenship Lab uses several tools. For example, the lab collaborates with Trollrensics, a forensic analysis agency that develops software to detect disinformation and troll campaigns on various social media channels. This software is very suitable for ethical big data collection. The Digital Citizenship Lab offers this tool to (student) researchers, who will receive step-by-step guidance during application of the tool.

The Digital Citizenship Lab is part of the Platform Digitaal Burgerschap Fryslân, a partnership of organisations in Friesland that are joining forces. The aim is to develop and promote digital skills, resilience and participation in the Fryslân province. Initiators of the platform are NHL Stenden, Fers, Firda and mental health organisation GGD Fryslân.

Located in the renovated library at Rengerslaan 8, the Digital Citizenship Lab has plenty of room to grow into an expertise centre for digital citizenship, shifting its focus outward and supporting practical partners in the region in solving practical issues regarding the digital information society. They do so very enthusiastically, with their feet firmly planted in the digital Frisian soil.

PASSPORT

Digital Citizenship Lab

Students, teachers and researchers NHL Stenden

Collaboration with Trollrensics and Platform Digitaal Burgerschap Fryslân

Part of the Organisations and Social Media Professorship and the Cybersafety Professorship

Courses, trainings, (training) modules and support for education and the professional field

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joyce.kerstens@nhlstenden.com

PASSPORT

Thorbecke Atelier Assen

Students Public Administration, European Studies, Law and Safety and Security Management

Partners a.o. police, court, municipality, province and defence

Collaboration with the Cybersafety Professorship, the Safety and Security Studies apprenticeship and the Law research counter

Developing answers for issues at the junction of governance, security and law

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ZUIDERSINGEL 12-18
ASSEN

NHL STENDEN ATELIER

2.9. Thorbecke Atelier Assen

The domain of administration, safety and justice

In January 2022, Thorbecke Atelier Assen moved into the former post office at the Zuidersingel in Assen. The charismatic building was transformed into an atelier where atmosphere, convenience, space and efficiency prevail. The location is designed for students, teachers and work field partners from the Public Administration, European Studies, Law and Safety and Security Management study programmes. The Assen location also houses the CyberSafety professorship, the learning company Safety and Security Management and the Law programme research desk.

This unique work and meeting place offers opportunities for regional collaboration. The building provides workspaces for 80 to 100 people every day. The 'free' workspaces offer the possibility to work individually or in groups. Each workstation is outfitted with a monitor and keyboard. The building has two rooms for larger groups that can accommodate up to 40 people, two meeting rooms and a podcast room.

During their programme, students work in ateliers on multidisciplinary and complex assignments from the work field, applying the unique concept of Design-Based Education. This concept is characterised by an investigative and broad approach to change and improvement, which challenges students to look at a problem from different perspectives. The customer is actively involved in this process, and a solution or advice rarely remains unused.

At the new location in Assen, clients, students from various programmes and researchers from the CyberSafety research group come together to work on real-life issues focusing on societal problems at the intersection of governance, security and justice. Students work together for organisations and companies from the Drenthe region. Due to the enormous interest within the academy, the atelier is now in contact with large and small parties. It closely cooperates with the police, the district court, the municipality, the provincial authorities and the Ministry of Defence.

Working with industry partners provides a rich breeding ground for students to develop personally and professionally. They are in direct contact and have short lines of communication with the work field, making them aware of their social involvement. In many cases, the students can immediately see the benefits and results of their real-life research assignments in the region.

2.10. The Next Web

The place where people and technology connect seamlessly

How do you ensure that an app is technically excellent and enjoyable to use? What is involved in developing an interactive chatbot that uses artificial intelligence? These are questions that students in The Next Web are looking to answer. This makes The Next Web the place where people and technology connect seamlessly!

High-speed iMacs, humming laptops, and a closet full of hardware, all in a comfortable living room setting. That's The Next Web in a nutshell. For students taking the CMD minor course of the same name, this vibrant lab is their living room for six months. Together, they form a close-knit community that immerses itself in digital innovations.

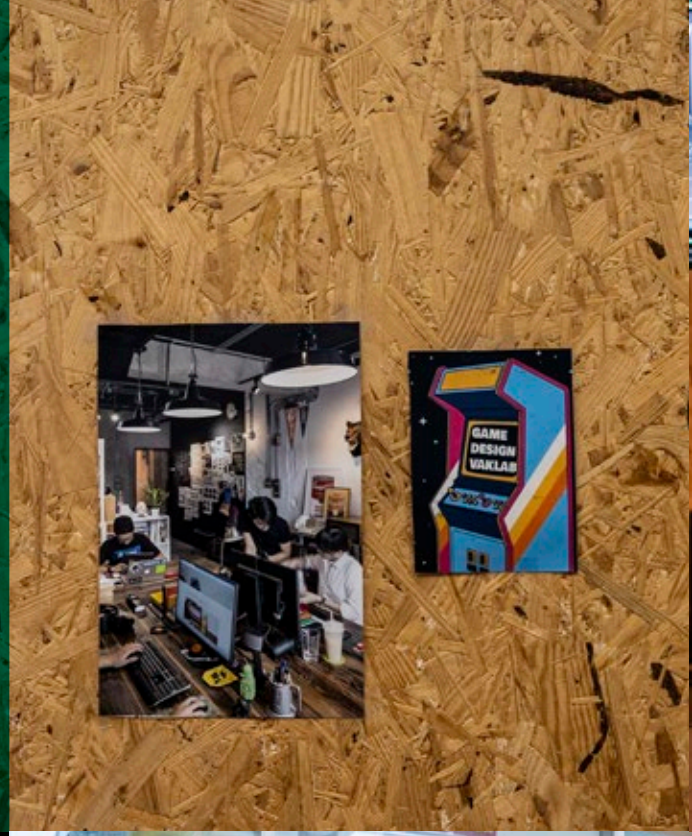
From developing an app that helps homeless youngsters find their way through the jungle of support agencies to an interactive website where ancient trade routes come back to life, students work in The Next Web on creative products for customers from the work field. In addition to designing these products, testing these solutions plays a central role. Besides hard skills, soft skills are also indispensable in this lab.

Students keep a blog for six months to make their learning process transparent. In this digital report, they link their experiences to the content of the minor course and, where possible, connect this to their learning objectives. Students will thus develop a reflection-in-action and reflection-on-action mindset. This process creates a tailor-made learning track that is unique to each participant.

The Next Web has become a rich breeding ground where education, research and practice find each other effortlessly. The atelier works closely with the MEE Lab and the Design-Driven Innovation and Health Innovation master programmes. Teachers, researchers and teacher-researchers from the Serious Gaming and Digital Innovation in Healthcare and Welfare professorships are also actively involved in developing the content of the minor course The Next Web.

Partners from the field regularly visit the atelier with current requests. For example, the municipality of Leeuwarden, the Accessibility foundation, The Factor E, Pixel Pillow, WeFabric in Sneek and Junction in Leeuwarden have been permanent partners for years. Experts from these companies regularly drop in to perform guest roles. In addition, The Next Web draws on a rich alumni network that extends as far and high as the headquarters of tech-innovative giant Apple.

In addition to the minor course The Next Web, the Communication & Multimedia Design programme includes Art & Sound, Visual Storytelling, Game Design & 3D, Concept Academy and Entrepreneurial Skills minor courses/communities.



PASSPORT

The Next Web

Minor of the Communication and Multimedia Design programme
Open to all (international) students

Collaboration with organisations such as: municipality of Leeuwarden, foundation Accessibility, The Factor E, Pixel Pillow, WeFabric and Junction

Collaboration with the professorships Serious Gaming and Digital Innovation in Healthcare and Welfare

Creative solutions

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RENGERSLAAN 10
LEEUWARDEN
EXTERNE LOCATIES
EN ONLINE

NHL STENDEN ATELIER

2.11. Diversity and Citizenship Atelier

Attention to education's role in personal development

How do you, as a teacher, ensure that you provide inclusive education? How do you notice signs of discrimination? How do you deal with cultural differences in the classroom? These are just some of the questions that are the focal point of the Diversity and Citizenship Atelier- where, besides professional content, the main focus is on education's personal development role.

Every year in the fourth term, the Diversity and Citizenship Atelier is the meeting point for all first-year students of the full-time programme for teacher education (TLO), every Monday and Wednesday afternoon. At the atelier, the students work in mixed groups on various real-life issues. They do this physically both within and outside the walls of the UAS and online with international clients.

For example, one group of students organises a citizenship day for students at the intermediate vocational school Firda. Another group designs a series of lessons on Friesland's slavery history for Free Heri Heri. Another group, with Surinamese pupils in Paramaribo and pupils from the Netherlands, prepares an event where Dutch and Surinamese pupils can meet.

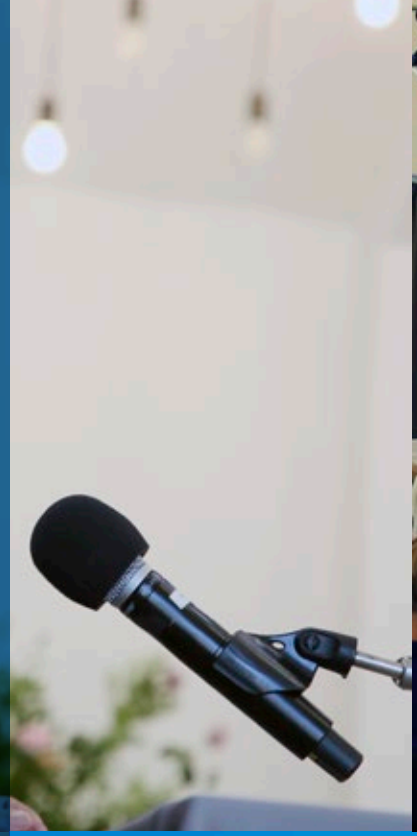
The content of the assignments varies each year and often depends on the personal interests and connections of the teachers involved. However, the learning outcomes and criteria are the same for everyone.

Blackboard Ultra is the backbone of this atelier. It contains all the organisational information; communication is posted here. It is the drop-off point for professional products, and students can come here to give feedback on each other's work.

The atelier aims to train interculturally sensitive teachers in a society with growing diversity. This awareness starts with identifying one's own identity and personal place in society.

Professor Migchiel van Diggelen and the Design-Based Education professorship conduct research into the learning outcomes and how the atelier deals with inclusive education in terms of content and its implementation. The varying group assignments of various customers offer students a choice that matches their interests, qualities and challenges.

During the period in the atelier, the students continuously look back at what they did and learned in the assignments and link these results to the learning outcomes in a personal portfolio. As such, the Diversity and Citizenship Atelier is a testing ground for capturing what and how students learn within Design-Based Education.



PASSPORT

Diversity and Citizenship Atelier

Teacher education students

Collaboration with the Professorship Design-Based Education

Collaboration with educational and public organisations

Lesson series and activities on diversity and citizenship

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2.12. Multi-Disciplinary Project (MDP)

Testing ground for multidisciplinary work

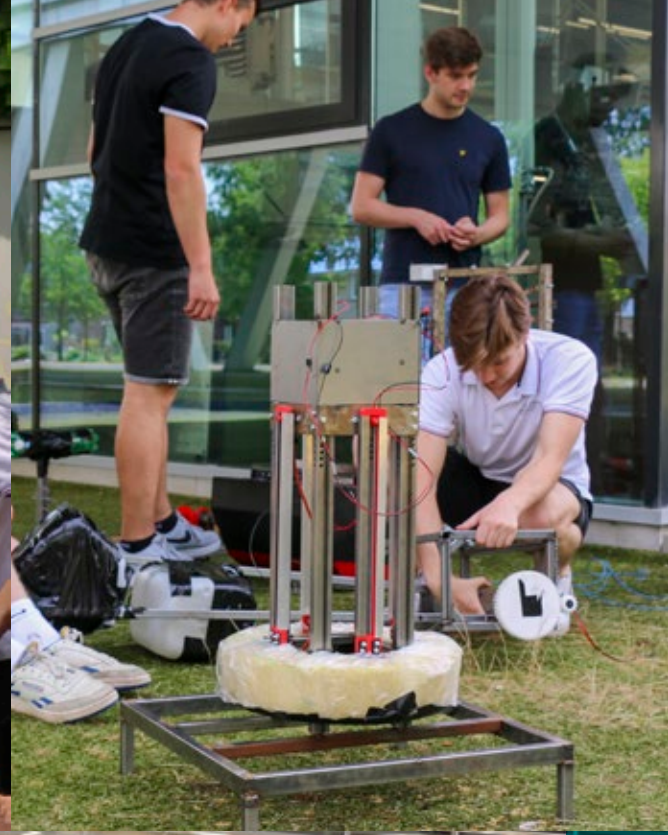
If you ask the business community what skills a young professional needs, you could fill a book with the answers. After all, no enterprise is the same. However, there are some essential basic skills that partners in the practical field are unanimous about: a young professional must be able to collaborate in a multidisciplinary way and have research capacity. And those are precisely the skills students develop in the Multi-Disciplinary Project (MDP).

How can you best introduce first-year students to Design-Based Education? By starting them off in an atelier and having them work on a real-life issue. In the fourth term of the first year, all Academy of Technology & Innovation students work on a challenging practical question in the MDP. Over the course of ten weeks, they discover what skills are required for multidisciplinary work and research capacity.

From civil engineering to maritime engineering and from engineering to applied mathematics: during the Multi-Disciplinary Project, students from no less than twelve different NHL Stenden programmes work together on an assignment. They collaborate on projects ranging from generating energy from waves on the water to re-using plastics for an injection-moulding plant. Each issue has its own specific ingredients and involves several disciplines, creating memorable crossovers between the various programmes.

Every year, more than 300 students are interactively introduced to the concept of design thinking through the MDP. The biggest challenge in such a project is to consider each other's knowledge and talents. The supervising teachers are challenged to relinquish their role as experts. Instead of offering lessons with professional content, their primary role within the MDP is supervising the group dynamics and stimulating the students' research skills. Students can consult content experts from companies, the UAS or professorships for the necessary professional content.

In addition to teachers from the twelve programmes, the professorships and Centres of Expertise within the Academy of Technology & Innovation are closely involved in the MDP. These are the Centre of Expertise Water Technology (CEW) and Computer Vision & Data Science and Circular Plastics professorships. The Maritime Innovative Techniques professorship and 'Future Building' (currently being established) have also joined this project. During these ten weeks, the professors and researchers from these professorships help the students and, through their extensive networks, provide new, surprising projects for partners from the field.



PASSPORT

Multi Disciplinair Project

- Students from 12 programmes at the academy Technology & Innovation
- Collaboration with professorships of the academy Technology & Innovation
- Collaboration with industry partners from the region
- Applied research and product development for the professional field

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cornelis.wartena@nhlstenden.com

2.13. Atelier Natural science education that matters

Students of the teacher education programmes for biology, physics, chemistry and mathematics arrange an excursion for second-grade pupils to the Wadden Centre on the Afsluitdijk. In this nature conservation location, natural sciences are visible, audible and tangible.

The bus has arrived! The pupils are flooding in, and there's some pushing and shoving, as you might expect. After a short chat, the pupils are divided into groups of six. Each group listens to three mini-lessons designed by the student teams. In eight rounds, the students take turns to teach, observe and guide the pupils to the next mini-lesson.

The assignment for this atelier was created in 2018-2019 in collaboration with the Wadden Association, 't Fryske Gea and the Fryslân province board. From 2019-2020 onwards, the Simon Vestdijk school in Harlingen became involved, enabling students to design a lesson, implement it, and document what the pupils have learned.

In the academic year 2022-2023, 70 students taught twenty different mini-lessons to 240 pupils in groups of 4/5. During the development of these mini-lessons, students learn about the characteristic thinking and working methods applied within the scientific subjects and how pupils can understand these ideas and practices.

The lessons are diverse and deal with topics such as fish migration, windmills, blue energy, x-blocks, blowdown capacity, dike elevation, and, more generally, the importance of dikes for the protection against the water in a large part of the Netherlands.

Pupils are extremely honest and will give the students concrete directions on how to improve their teaching. The pupils can also be very generous: "Will you be teaching us?", "I learn more from you than from my own teacher". Now, isn't that nice to hear at the start of your programme?

Some might wonder whether students are ready to start teaching after only six weeks. They have not yet learned how to create a lesson. True. But at that stage, they are not yet limited by their knowledge. They just get started and gain an initial learning experience.

The mini-lessons take place in week 6 of the first period.
This experience is then linked back to the theory of teaching. During this reflection phase, the students briefly describe what they have done and what they have learned from it. They then give each other feedback, and each student individually analyses which (parts of the) learning outcomes have been worked on.

These experiences are the starting point for the next DBE cycle in the next atelier, where students once again work on an assignment in groups and individually develop into teachers who teach each lesson a little better than the previous one.

PASSPORT

Atelier Natural Science education that matters

1st-year students teacher education in biology, physics, chemistry and mathematics

Assignment from the working field. Clients are involved during the process as experts

Mini lessons and execution on location with pupils

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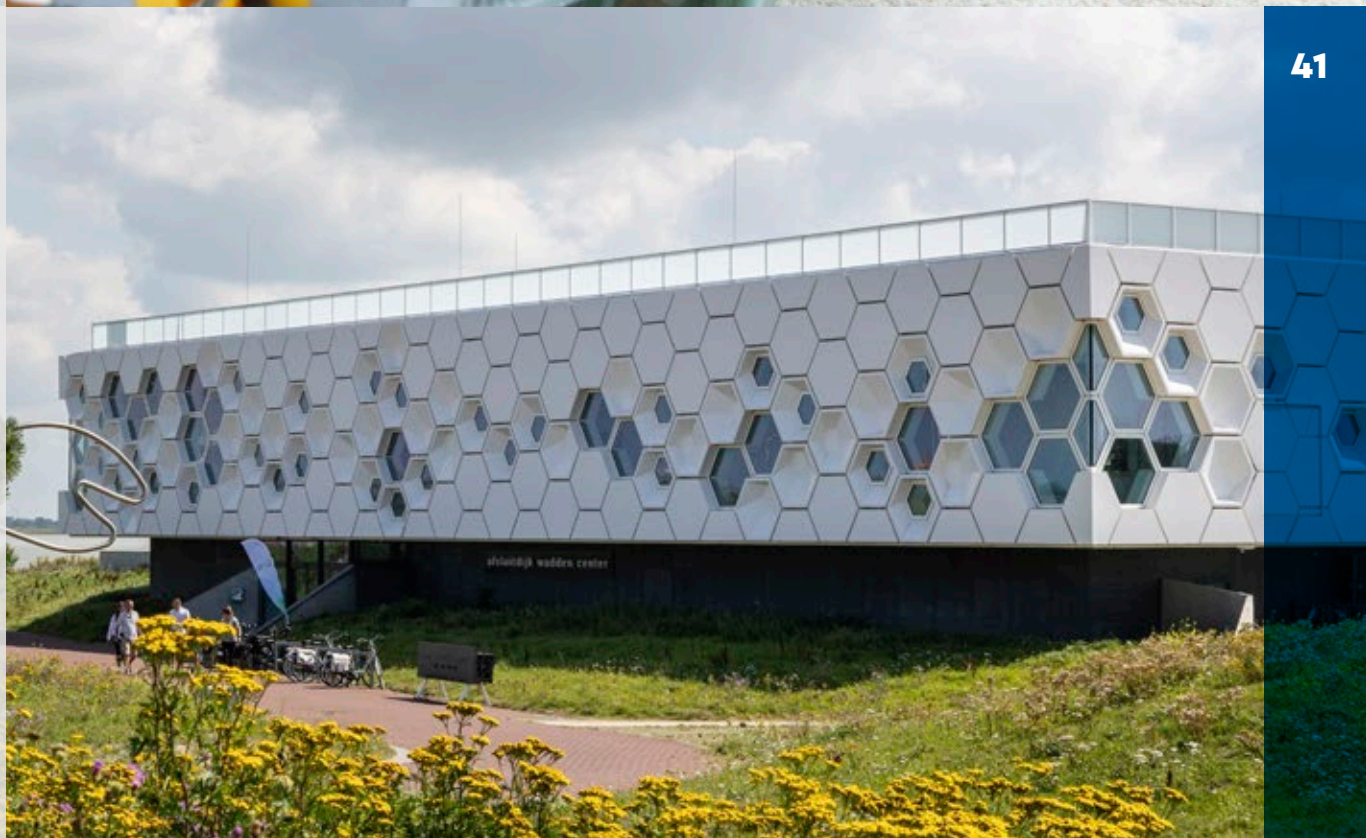

PASSPORT

Werkplaats Sociaal Domein Friesland

Students Social Work, Nursing, Finance & Control, Public Administration, Safety and Security Management, Theatre in Education, Spatial Development, Communication, Communication & Multimedia Design, Human Resource Management

Partners: Municipalities Achtkarspelen, Ameland, Heerenveen, Leeuwarden, Ooststellingwerf, Súdwest-Fryslân, Tytsjerksteradiel, the WaddenCampus, local care and welfare professionals, local voluntary organisations, local socially engaged entrepreneurs and residents of involved municipalities

Collaboration with the Professorship Social Quality

Developing answers for complex issues in the social domain

Website
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EXTERNAL, AT VARIOUS MUNICIPALITIES

NHL STENDEN ATELIER

2.14. Werkplaats Sociaal Domein Friesland

A regional breeding ground for research and practical learning

One of the supporting projects of the Social Quality professorship is the Werkplaats Sociaal Domein Friesland (Workshop Social Domain Friesland). The Werkplaats Sociaal Domein Friesland is part of a national network of similar social domain workshops spread throughout the Netherlands. Together, they work on social quality in and through a social environment. The workshops support municipalities, citizens, volunteers and health and welfare organisations in the many changes within the social domain. Its strength lies in discovering the question and what it takes to answer it together.

Research shows that profound changes in the social domain take a long time, not only because of the new vision and approach but also because many parties need to collaborate closely. The aim is to become increasingly connected to the environment and the ability of (vulnerable) people to improve inclusion and participation in society. It takes a lot from professionals and other supporting parties to tailor their actions accordingly. Municipalities play a critical, pivotal role in this. Sometimes as the customer of research assignments, but mainly as a partner for discussion and collaboration.

Social Domain Ateliers

Since 2016, the Werkplaats Sociaal Domein Friesland has collaborated with the Frisian municipalities in the Sociaal Domain Ateliers. These are local learning communities where students work with staff from the relevant municipality and locally employed professionals and residents on solutions to complex societal issues. The ateliers take shape in the context in which they arise. This depends on the location, problem and stakeholders, but a Sociaal Domain Atelier is always a structural and challenging learning environment where students, teachers and professionals from the field collaborate on various issues.

There are currently seven Frisian municipalities with a Social Domain Atelier: Ameland, Achtkarspelen, Tytsjerksteradiel, Leeuwarden, Heerenveen, Ooststellingwerf and Súdwest-Fryslân. The Social Domain Ateliers are sustainable partnerships between these Frisian municipalities and local organisations. The ultimate goal is to strengthen the residents' social quality in and through the social environment (using Design-Based Education).

In these ateliers, we specifically work on issues within the following local themes:

- Development of 'blossoming zones'
- Loneliness (among young people)
- Healthy ageing
- Sport, art and culture as a means/recipe to cure loneliness and improve participation (from a positive health perspective)
- Youth and alcohol and drug prevention
- Criminal exploitation

Working on 'slow questions'

The issues we are collaborating on are so-called 'slow questions' that we cannot answer quickly. The partnerships are multi-annual, sustainable collaborations that enable us to jointly contribute to the social quality of residents, neighbourhoods, districts, villages and the region. Through this process, learning communities emerge within the municipality: learning implementation practices that allow us to collectively seek 'bottom-up' answers to complex issues in the social domain and take steps to improve and change things.

This is done, among other things, through practical research and by developing new methods to provide tailor-made help and care and strengthen citizen participation. The workplace uses the knowledge and skills of researchers, teachers and students to achieve this goal. The ateliers are used by students and teachers from multiple programmes, as well as all relevant partners at a local level, such as policy staff, administrators, health and welfare professionals, volunteers, experts-by-experience and residents.

The daily practice of the ateliers

In September and February, new (multidisciplinary) groups of students will carry on the work on the issues, thus enabling us to guarantee continuity. Students can practice working on authentic issues within different contexts throughout one semester.

They work with all stakeholders, explore the issue, research applications and test these solutions in practical situations. They all work on it from their own expertise, training and experience, which can lead to some surprising insights.

All ateliers have teacher-researchers from different academies who act as coordinators. The coordinator is the spider in the web of the atelier; they are the linking factor, together with a fixed contact person from the municipality and social organisation. Each atelier has a fixed structure, with a start-up and closing meeting, weekly atelier days and intermediate exchange with local stakeholders in so-called think tanks.

The characteristics of working in a Social Domain Atelier are:

- Interdisciplinary collaboration
- Design-Based Education
- Deploying a think tank
- How exactly that works in a Social Domain Atelier is made clear here.

Learning at all levels

The Werkplaats Sociaal Domein Friesland is continuously developing and intensively uses the different experiences and insights of all partners within the Social Domain Ateliers, providing knowledge sharing and infrastructure. This applies at all levels: within the Werkplaats Sociaal Domein Friesland, between the Sociaal Domain Ateliers, with other NHL Stenden ateliers, regionally with the organisation Friese Preventie Aanpak, nationally with the association of Sociaal Domain Ateliers and with our KAMZO knowledge partners.

There are several similar Werkplaatsen Sociaal Domein spread throughout the Netherlands. Each workshop is a partnership between the universities of applied sciences, health and welfare organisations, and municipalities. Together, they define and implement a regional knowledge and development agenda to improve various social domain issues. These agendas all have their own regional character and colour. In addition, the various workshops collaborate on several national themes. Since its inception in 2013, the Werkplaatsen Sociaal Domein have become regional breeding grounds for research and practical learning.

2.15. Future Design Factory

Jointly designing the future in a former prison

Sustainable Development Goals, Future Design Playground, multi-level education, Future Literacies, Design Factory Global Network. These terms may sound futuristic, but they are frequently used within the Future Design Factory (FDF), founded in 2015. Here, future thinkers and future performers design a better future and work together with national and international networks of education, research and business.

How can we make education as relevant as possible to our students? That question is the focal point of FDF. Students learn to actively look at potential future scenarios when solving problems using our proprietary Future Design method, based on Unesco's Future Literacies programme. Through this method, they realise that they can influence potential future scenarios.

Within FDF, students from intermediate and higher professional education institutes and teachers of various programmes and academies work together on future issues. For example, the students are transcending academic and level boundaries while working on specific problems of the future that are directly linked to the Sustainable Development Goals. FDF embraces Design-Based Education (DBE), NHL Stenden's educational concept. The development of personal leadership, interdisciplinary collaboration, future thinking and interpersonal communication skills are also topics on the FDF agenda.

FDF wants to give all students of NHL Stenden a future experience through working on relevant projects. For example, the FDF organises 'future weeks' for students from different academies. During these projects, students work on wicked problems for regional customers. Students learn how their design choices could affect the future. Being actively involved in this will create a lasting mindset change, partly thanks to the Future Design Toolkit, developed by our own Future Design Playground minor course.

FDF puts much stock in the student's ownership. For example, in Community BLØKHAUS, the students are responsible for building a community together, partly physically and partly by setting up a student council. This setting contributes to the personal leadership of students. At the Blokhuispoort, Leeuwarden's historic prison building, 14 teachers from 5 minor courses at 4 academies, with 120 students from NHL Stenden and 3 teachers and 30 students from the intermediate professional education programme at Friesland College's fablab D'Lab work together on future issues.

Two researchers are actively researching multi-level education and transactional analysis. In addition, FDF receives visiting professors and collaborates with colleagues and students from their international networks Design Factory Global Network and RUN-EU. Everyone can join the family: everyone is invited to start designing!

In the coming period, Future Design will be further explored and developed within NHL Stenden in collaboration with professorships in DBE and Open Innovation. In addition, five international partners in the RUN-EU network are researching the Future Design method and methodology. And this is just the beginning.

PASSPORT

Future Design Factory

Brainstorming space, Prototype studio for models made of wood, cardboard, 3D printed plastic

Minor Future Design Playground, Community BLØKHAUS. Partner of the Design Factory Global Network with 39 international universities and partner of the RUN-EU Network

Projects for wide range of regional organisations, like Province Fryslân, Campus Victoria, Lankhorst, De Friesland Zorgverzekeraar, Vitens.

Collaboration with the professorship Open Innovation and Design Based Education; RUN-EU.

Publications, Future Design method, game, advice, app, etc.

Website
futuredesignfactory.nl

Contact
info@futuredesignfactory.nl

PASSPORT

Inclusive Community Lab Fryslân

Students of the academies Social Studies, International Business Administration and Economics & Logistics

Clients from the working field

Collaboration with several professorships like: Social Quality, Early Childhood, Digital Innovation in Healthcare and Welfare, TalmaProfessorship, Futureproof Entrepreneurship, etc.

Working on social impact in a vital region

Contact
ellen.de.bruin@nhlstenden.com

2.16. Inclusive Community Lab Fryslân

Investing in reducing poverty and debt

In 2020, the Social Studies, International Business Administration, and Economics & Logistics academies joined forces in the Inclusive Community Lab Fryslân. Through a multidisciplinary method, the three academies want to contribute to reducing persistent problems in the area of poverty and debt.

These three academies, each with a very different DNA, all notice the social issue of poverty. They are very aware that integral cooperation is needed to achieve solid, sustainable solutions. The focus is on four themes: creating a meaningful economy, inherited poverty, an inclusive employment market and digital citizenship.

On average, 120 master, bachelor, associate and intermediate vocational students work in multidisciplinary atelier groups on twenty integrated Sustainable Development Goals issues supplied by customers in the field. Through Design-Based Research, they discover plenty of interesting opportunities and new approaches. The lab is a concrete expression of NHL Stenden's mission: to use education and research to have a social impact in a vital region.

The lab's themes are not new, but how it approaches them is. The starting point is the ambition not to reinvent the wheel but to jointly find other solutions to tackle problems faster, smarter and more effectively. In the different atelier groups, students, teachers, professionals from the field, employers, entrepreneurs, and experts-by-experience work closely together to find those other solutions (quadruple helix). Experts-by-experience are 'partners in learning' for students and teachers.

In recent years, the Inclusive Community Lab has proven that NHL Stenden, as an education and knowledge institute, can be an essential independent party to lead the way towards innovative work methods. Customers already know their way to the lab, which has led to increasing success in practice. The lab's hard work is why the Inclusive Community Lab Fryslân was the runner-up in the 2022 Dutch Education Awards, an initiative of the Dutch Minister of Education, Culture and Science initiative.

2.17. The Family Lab

Keeping an eye out for unseen families

The city of Leeuwarden has been in the top 10 municipalities with the lowest incomes for years. Some of its neighbourhoods rank among the worst in the Netherlands to grow up in. These districts are almost all located in the eastern part of Leeuwarden, the location of NHL Stenden's Family Lab.

The Family Lab is a collaboration between the city of Leeuwarden, organisations in the Leeuwarden districts of Bilgaard and Oud-Oost, NHL Stenden, and the residents. The lab focuses on vulnerable families with multiple issues. The aim is to better understand the needs of these families, strengthen the social base in the Leeuwarden districts and answer requests for help more appropriately.

In the lab, students from the Social Work bachelor programme and teachers collaborate with the municipality and professionals in the district on a different approach for vulnerable families. The aim is to give a voice to people who are not always heard. The Family Lab wants to reach precisely those residents who have become silent because of the problems in their lives, no longer make themselves heard, don't feel connected to society, and sometimes also have lost faith and trust in the government and authorities.

Education within the Family Lab occurs in collaboration with the work field ateliers in Bilgaard and Oud Oost. Students work together with experts-by-experience and professionals on new solutions and interventions for issues in the neighbourhood. The Family Lab works closely with the Inclusive Community Lab Fryslân, the Werkplaats Sociaal Domein and the Social Quality professorship.

Through the concept of Design-Based Education, students discover, in a design-oriented and people-oriented way, how they can give families more control over their life and home life, creating a solid basis for working towards better health (experiences). This is a substantial challenge, using an innovative approach to reach families who have dropped below the radar and, in many cases, don't want to be found. The Family Lab is keeping an eye out for unseen families.

PASSPORT

The Family Lab

Students Social Work
Collaboration with the Inclusive Community Lab Fryslân and Werkplaats Sociaal Domein Friesland

Collaboration with the municipality of Leeuwarden and professionals in the area

Collaboration with the Professorship Social Quality

Developing new solutions and interventions for issues arising in the Leeuwarden East neighbourhood

Contact
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2.18. Community BLØKHAUS

The home of thinkers and doers

Community BLØKHAUS is located in the Blokhuispoort building. It is an atmospheric space with a hotchpotch of furniture, all lovingly collected by caretaker Guus. The walls, the floors and the ceiling have all been filled with creative ideas and designs. If you want to know what Design-Based Education actually tastes like, you should come and taste the atmosphere at Community BLØKHAUS.

The beautiful space of Community BLØKHAUS in the former Leeuwarden prison is an inspiring place for students who work on complex, wicked problems. These societal issues range from the Future of Water to the Future of Food. They are all linked by a mutual factor: every issue and every solution contributes to a vital region.

Originating from the Future Design Factory and existing minor courses, Community BLØKHAUS wants to provide all students with a future mindset. By introducing them, in a design-oriented manner, to a large variety of issues they will encounter in the work field, every student becomes a future thinker and a future-oriented person. In Community BLØKHAUS's high-tech prototype atelier, the designed solutions are literally taking shape.

For one semester, the Community BLØKHAUS is the living room for those students who choose one of the four minor courses (see passport). To share knowledge among themselves and with the outside world, Community BLØKHAUS organises two multidisciplinary weeks per semester. During these weeks, students can walk in and feed on new ideas from one of the minor courses.

During Future Week, multidisciplinary project groups also work on solving regional issues. This academic year, the experiment will continue. In weekly sessions, the students in Community BLØKHAUS will develop and share attitudes, knowledge and skills beyond the limits of their minor courses because 'working together will get you further'.

Community BLØKHAUS regularly hosts visitors from the Netherlands and abroad who want to see what Design-Based Education can look like. As a testing ground for DBE, the atelier has become a prime example of how education and research contribute to a vital region by doing things differently and thinking differently.

PASSPORT

Community BLØKHAUS

Students of the minors:
- Future Design Playground (Communication & Multimedia Design)
- Business Model Innovation & Leadership (International Business Administration)
- Sustainable Society (Thorbecke Academy)
- Neuromarketing (Marketing Management)

Part of the atelier Future Design Factory and RUN-EU

Collaboration with (small & medium) businesses, Province of Fryslân, Wetterskip Fryslân, Friesland Zorgverzekeraar, Buurvrouw and Buurvrouw, Circular Fryslân and restaurant Proefverlof

Solutions for wicked problems in a vital region

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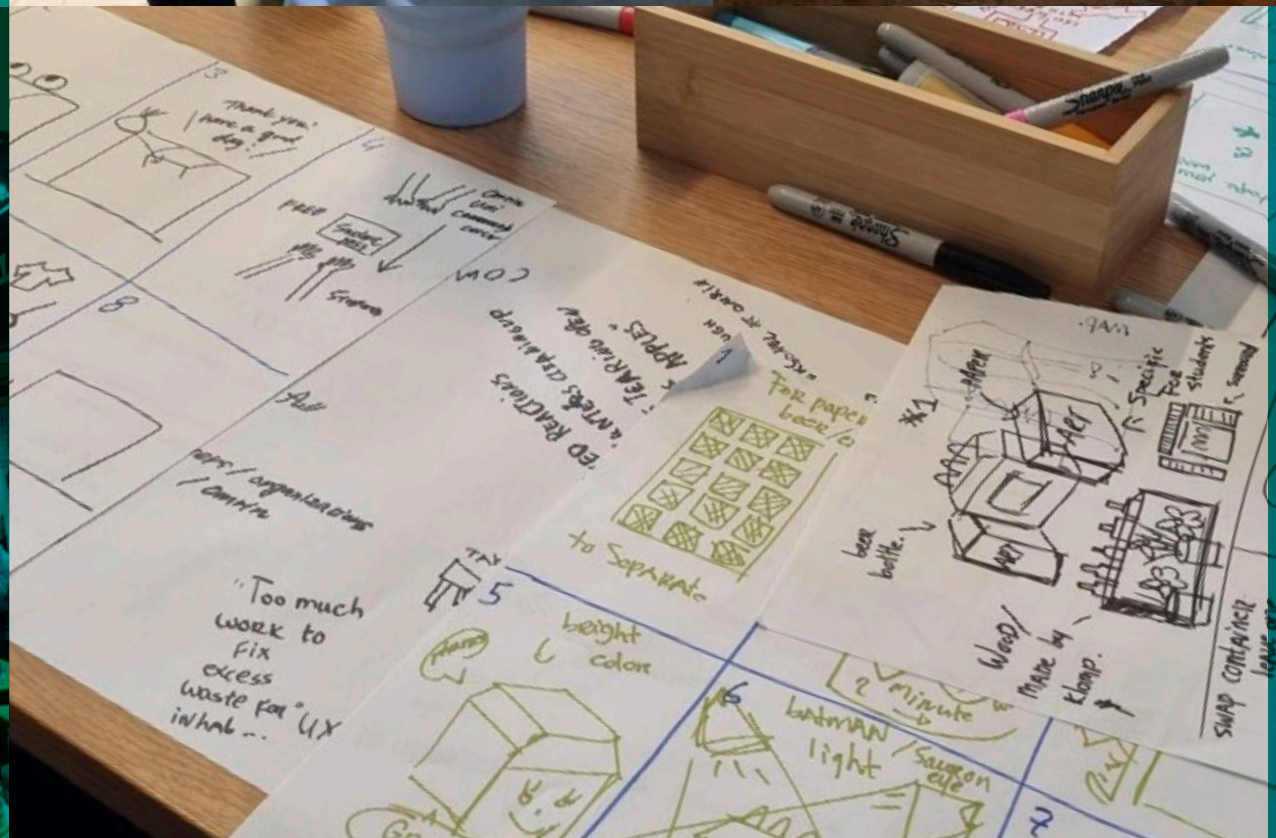

PASSPORT

Centre of Expertise Water Technology

Students NHL Stenden and Van Hall Larenstein

Part of WaterCampus, Collaboration with a.o. Wetterskip Fryslân, Vitens, WLN, Landustrie, Paques

Applied research, product development and research facilities for the working field

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WATERCAMPUS
OOSTERGOWEG 9
LEEUWARDEN

NHL STENDEN ATELIER

2.19. Centre of Expertise Water Technology

The bridge between research and practice

Commissioned by companies and government organisations, the Centre of Expertise for Water Technology (CEW) develops, researches and tests innovative solutions for growing global climate, environmental, water and food challenges. Every year, the CEW employs more than 300 students to add fresh ideas, innovations and insights to research projects. These students conduct the research, which is complemented by the knowledge and experience of CEW researchers, teachers and professors. By conducting practical research, CEW accelerates innovation while training the future generation of water technology professionals.

If you think that the CEW only targets students from technical programmes such as Environmental Sciences, Chemical Technology or Biotechnology, you'd be mistaken. The CEW is an atelier where unique crossovers arise between students of different programmes at intermediate and higher vocational and university levels. Together, they address a variety of practical questions.

These issues range from 'How can we encourage the citizens of Leeuwarden to use drinking water more economically?' - whereby students from the Thorbecke Academy join forces with students from the Leisure programme - to 'How can we clean underground waste containers and reuse the rinsing water?' where mechanical engineering students collaborate with chemical technologists.

The CEW is also active in national and international R&D collaboration projects such as Agro2Circular and REGAIN. Students focus on reducing plastics in the agricultural and horticultural sectors and removing waste medicine from wastewater to reuse that water as industrial water.

The CEW offers students a unique practical workplace. For its research, the atelier uses the Water Application Centre: a test hall of 900 m^2 with a chemical and a microbiological laboratory and state-of-the-art facilities that enable students to test and optimise innovations.

With Wetsus, Water Alliance and CIV Water, the CEW is part of WaterCampus Leeuwarden. The organisations provide a chain in which ideas, education, research, specialised laboratories, an application centre, demo sites, marketing, matchmaking, business and export are linked to form the WaterCampus Innovation Chain. Within this chain, the CEW is responsible for practical research.

The CEW works closely with NHL Stenden and Van Hall Larenstein. Key partners are the municipality of Leeuwarden and the Fryslân province authority. In addition to local students and researchers, the CEW welcomes many international students, making the CEW a unique work environment where worldwide water technology knowledge is brought together.

2.20. CrossWise

Vibrant cultural hotspot

From setting up the decor and the light show to ticket sales and cleaning, running a music centre is a very versatile business. CrossWise is the vibrant practical environment of SPOT Groningen, a theatre and concert organisation in the northern Netherlands. Here, students and teachers from the Alfa College, the Hanze University of Applied Sciences, Noorderpoort and NHL Stenden, together with SPOT Groningen's cultural professionals, turn learning and innovating into an art form.

The Groninger and Oosterpoort Theatres host some 700 performances per year. What the audience in the room does not notice is that students behind the scenes are continuously creating new ideas and new directions. From the search for emerging talent to reaching new audiences, students are laying the foundations for innovative projects, contributing to a sustainable cultural region in the north.

Housed in the Oosterpoort, CrossWise is literally 'at the centre'. Students can learn up close what is involved in organising a show or event in a context-rich learning environment. The diversity of programmes involved is impressive, from stage engineering to music management and from hospitality to marketing.
The activities are all centred around learning and innovation. In their projects and during their internships, students collaborate with de SPOT Groningen professionals in innovation labs and work on current practical issues in the cultural sector.

One of the issues students are looking at is the construction of the new Music Centre in Groningen. In 2030, a remarkable building will emerge behind the Groningen train station. From architecture to interior construction: students from various programmes have been invited to contribute their ideas about this new project. The project creates surprising crossovers between programmes, removing all barriers between the different levels of education.

Eurosonic Noorderslag is also one of the CrossWise collaboration partners, presenting the students with some challenging issues. How can we match a live performance with digital means? How can we use data to predict which artists will be trending next year? These questions can be used in design thinking to create a helpful prototype that the students can test in practice.

CrossWise shows that opening your doors to students of different educational levels leads to new knowledge, experiences, curiosity and enthusiasm, resulting in more developments, applicable innovations and more expertise for all participants. This makes CrossWise a forerunner for innovation and learning in the North of the Netherlands.

PASSPORT

CrossWise

Collaboration with Alfa-college,
the Hanzehogeschool, Noorderpoort

Iniatitive of SPOT Groningen
Collaboration with SPOT Groningen,
Eurosonic Noorderslag (ESNS),
municipality of Groningen,
Generation Hospitality

Creative solutions for a sustainable
northern cultural region

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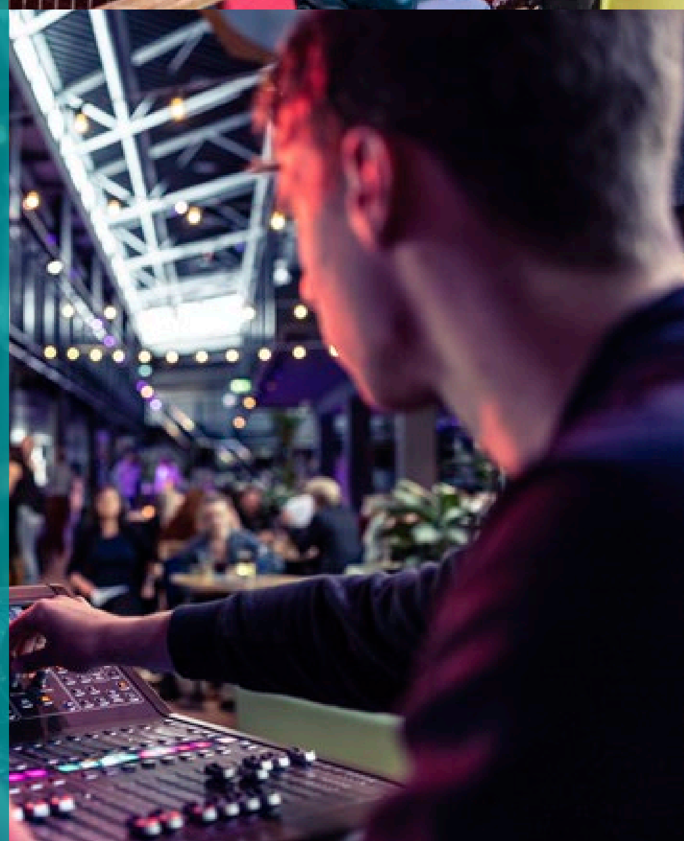

PASSPORT

Practice atelier
ICC Klein Leeuwarden

Students from the programmes Educational Theory and Education in Primary Schools

Collaboration with the ICC Sint Thomas, ICC Franciscus and ICC De Sprong

Pedagogical activities

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2.21. Practice atelier ICC Klein Leeuwarden

Learning with both feet firmly planted in the real world

The first Integrated Child Centre (ICC) opened its doors in the Netherlands in 2015. The abbreviation ICC has since become an integral part of our society. An ICC is an ideal, inspiring and lifelike learning environment where students from the NHL Stenden programmes Educational Theory and Education in Primary Schools and the intermediate vocational programmes Education assistant and Pedagogical employee work together on valuable ideas for a broad range of issues, from dealing with teenage 'mean girls' to strengthening the executive functions of primary school children. In the practical atelier ICC Klein Leeuwarden, students stand firmly planted in the real world.

In the second year of the Educational Theory programme, 'collaborating and learning in practice' is the focal point. More than 130 students are divided into 22 practical ateliers in the North of the Netherlands, where they learn in a practical setting, 24 hours a week. One of those locations is the practical atelier ICC Klein Leeuwarden, a collaboration between ICC Sint Thomas, ICC Franciscus and ICC De Sprong, all part of the Bisschop Möller Foundation (BMS) in Leeuwarden.

The academic year 2023-2024 marks the start of Educational Theory - Education in Primary Schools Training dual bachelor programme. The students of this dual bachelor programme will also use this atelier to work on current issues. The atelier will provide support ranging from individual guidance in the field of social-emotional development to additional support for behavioural and learning problems. The ICC Klein Leeuwarden practice atelier continuously focuses on professional relevance.

Current situations within the IKCs are supervised and handled by the students as much as possible, and they link back to their learning outcomes. In this process, they collaborate across disciplines with professionals from the ICCs, fellow students, teachers from the Education in Primary Schools programme and the intermediate vocational programmes Education Assistant and Pedagogical employee.

The Directors and Location Coordinators from the BMS are closely involved in developing this practical atelier. This involves a micro-to-macro level work method in the Child and Community modules. The atelier also deals with developmental policy, research, diversity, moral reflection and coaching. In consultation with the practical field and the teachers, the students develop development activities that meet the learning needs of the target group (0 – 12 years).

In the atelier, reflection is a central theme, focusing on a professional attitude. The teachers visit weekly to link the practical work to the theory, and for case study discussions and peer review. There is also plenty of room for self-assessments and peer assessments, using the DBE concept as a basis. This ensures students are sustainable and prepared for future roles - possibly within an ICC. In this respect, it is permissible to make mistakes. Even better, making mistakes is encouraged!

2.22. Thorbecke Academy Crisis Simulation Space

Simulation is learning together

The large screens on the walls display social media messages at lightning speed. There is a response cell with cameras that can zoom in and out, and live communication with various aid organisations, the mayor and the safety region. Those who enter the crisis simulation space of the Thorbecke Academy and Safety Region Fryslân suddenly find themselves in the epicentre of a disaster. One saying applies here: simulation is learning together.

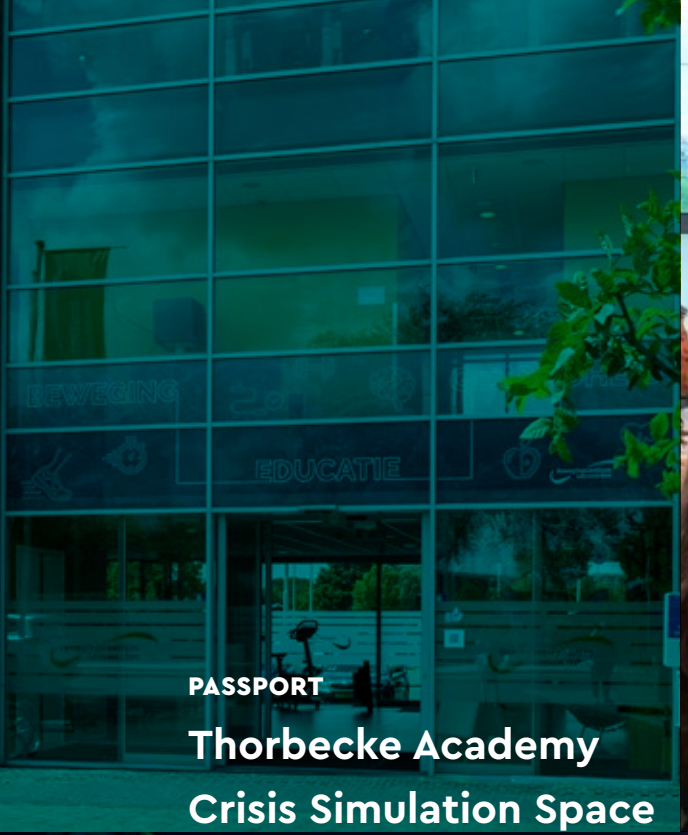
Since May 2022, the Thorbecke Academy, the Safety and Security Management programme and the Safety Region Fryslân have had a high-tech simulation room for crisis situations. From a flood to a fire at a chemical plant, from a virus outbreak to a football riot, almost any possible crisis can be replicated in detail here. The unique feature of this room is that it is a mobile variant, which the Safety Region can actually use in case of emergency.

The purpose of the crisis simulation room is to allow students of the Safety and Security Management programme and students of the minor course Crisis Management to practice and train as realistically as possible in making decisions under time pressure during complex crisis situations. The room has a response cell with monitors that allow students to observe what is happening in the larger crisis simulation room. The objective is to watch whether everyone is performing their role well and is implementing the tasks according to protocol.

A scenario is needed to replicate a crisis situation as realistically as possible. In the second year, students write these scenarios, covering all aspects, from determining the GRIP level to determining the disciplines that should be invited to the table. To make the actual simulation as realistic as possible, practical partners of the fire brigade, police, the army and the safety region regularly join in for practice drills with the students.

In addition to students, other organisations also use the simulation room to practice crisis situations. Police teams from the North of the Netherlands, municipalities, the water authority Wetterskip Fryslân and the Department of Waterways and Public Works (Rijkswaterstaat), and companies such as Arriva, Friesland Campina, BASF, Douwe Egberts and Omrin are welcome. Specific scenarios are developed for each partner in collaboration with students, Integral Safety teachers, researchers from the CyberSafety research group, the work field and the training company. These scenarios also tackle cybercrimes, such as hacker attacks.

Students are given a variety of practical issues to deal with. They will go out and personally assess, for example, the risks at a football stadium or a chemical company. During this investigation, they are supervised by their teachers. The slogan is always 'prepare for the worst'. A mission that can be accomplished thanks to the crisis simulation space.



PASSPORT

Thorbecke Academy Crisis Simulation Space

Students of the programme Safety and Security Management and the minor Crisis management

Collaboration with the Professorship Cybersafety

Collaboration with the Safety region Fryslân

Courses, training and support for the professional field

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PASSPORT

Lesson Study Lab Groninger OpleidingsSchool

Students Teacher Education programmess

Collaboration with the Professorship Subject Pedagogy

Collaboration with met OOG Hanzehogeschool and University of Groningen

Developing lessons based on Lesson Study

Contact
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PRAEDINIUS GYMNASIUM
TURFSINGEL 82, 9711 VX
GRONINGEN

NHL STENDEN ATELIER

2.23. Lesson Study Lab Groninger OpleidingsSchool

The lab where learning leads

In 2019, the Groninger OpleidingsSchool (GOS) started the Lesson Study Lab. The GOS is a collaboration between the teaching organisation Openbaar Onderwijs Groningen (OOG), Hanzehogeschool, Groningen University and NHL Stenden. The Lesson Study Lab involves NHL Stenden and OOG. Every year, some 16 to 20 students from the teacher education (TLO) programme are intensively supervised while they research how their pupils learn. This is Lesson Study in due form.

The stately building of the Praedinius Gymnasium grammar school, in the heart of Groningen's city centre, is the home of the GOS Lesson Study Lab. Every Tuesday morning, TLO students come here to work on issues from their classroom. Why do pupils stop listening when someone is explaining something? How can you bring a complicated, abstract theme like the sinus node to life? These are all questions that students discuss and investigate in different groups.

Through the steps of the design cycle, they develop a teaching design that is then tested in practice. In addition, they test this prototype in different schools and disciplines to determine what works and what does not. The students work in various roles, from teacher to observer. The latter role is particularly essential, as observation and evaluation are vital to improve the prototype further. Through interviews, students learn to look at things from the pupils' perspective. This is a true eye-opener for many future teachers.

The GOS Lesson Study Lab focuses on the core task of each teacher: making sure their pupils can learn the most. Research by Siebrich de Vries, professor of Subject Pedagogy, shows that the lab delivers very valuable results. Students can see the added value of working in teams and connecting with future colleagues. In addition, they discover the essence of teaching: focusing on the learning needs of each pupil. The pupil becomes the 'direct customer' for every problem the students tackle in the lab.

The lab aims to train agile, innovative educational professionals with a tremendous investigative capacity - teachers who contribute to educational changes and dare to scrutinise their own role. From the academic year 2023-2024 onwards, promoting student agency in pupils will be a focal point. Embedded in a large-scale multi-year NRO research project, this will work to strengthen the quality of education in the northern region.

1 GRAND ST
PORT ALFRED
SOUTH AFRICA

2.24. Living labs in South Africa

Working with many local partners

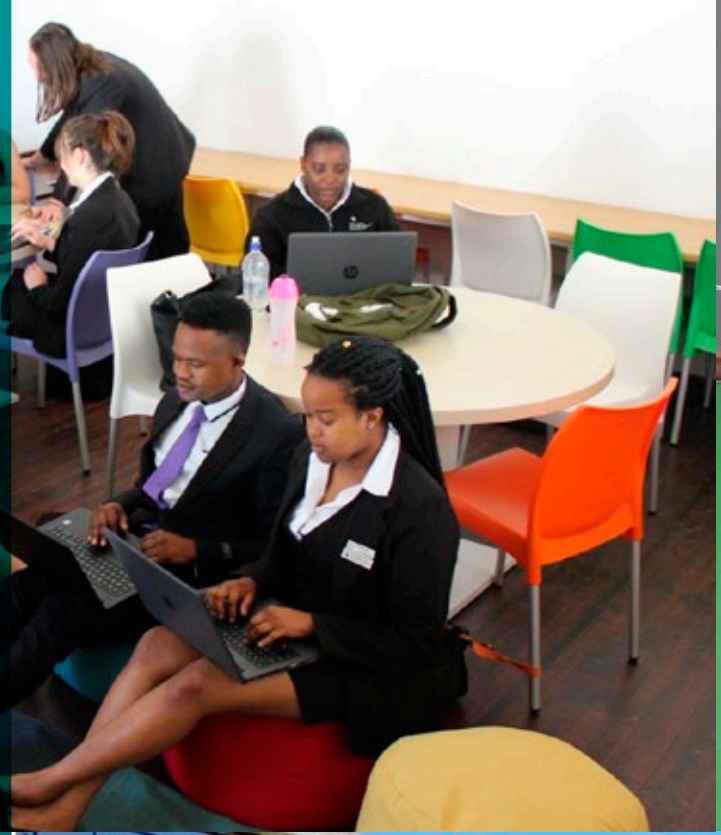
Working in living labs inside and outside the walls of the University of Applied Sciences: for years, three on-campus ateliers have been part of the curriculum for the students in Port Alfreds. Over time, the MyPond Hotel, the RV Entrepreneurship Centre and the Ingubo Childhood Development Centre in the Nemato Township have become indispensable.

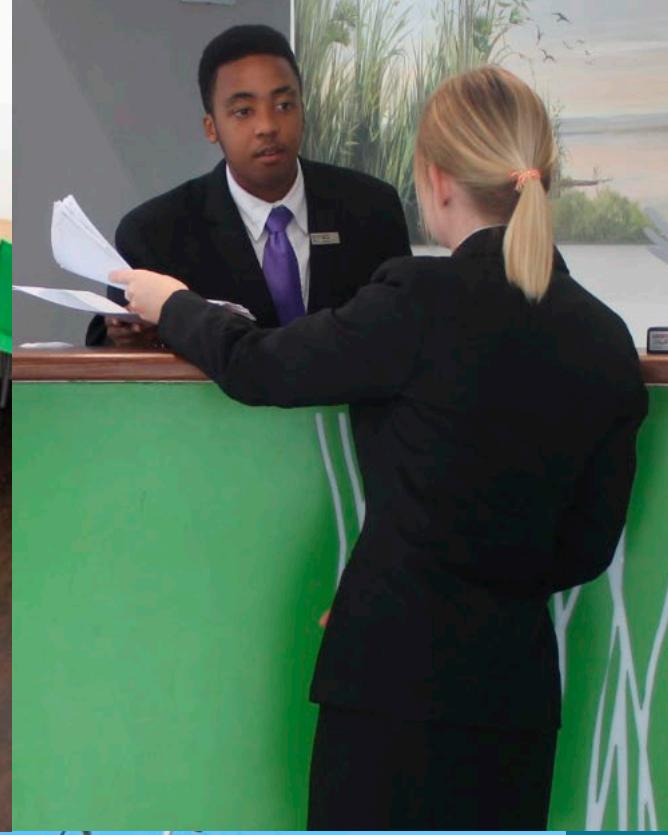
The MyPond Hotel in the centre of Port Alfred is the training company for Stenden South Africa's Hotel School. Under the guidance of a professional team of managers, students ensure everything in the hotel runs smoothly. To provide access to this programme for every student, the MyPond Hotel works with a unique scholarship system. Students who are part of the so-called Dream Team receive a discount on their tuition fees in exchange for working extra hours in the hotel. As such, they are the indispensable engine behind the success of the MyPond Hotel.

From the Entrepreneurship Centre in the Nemato Township, students provide computer training to the local residents. Since the start, more than 5000 participants have obtained their diplomas. From 6 to 86 years, everyone is welcome. In addition, students from the management programme's Social Entrepreneurship minor course support local companies in running their businesses. The centre is located next to a special hub where local entrepreneurs can set up their offices, meet each other and take training courses. What's unique about the Entrepreneurship Centre is that the students actively connect with the community. And successfully: the atelier has been embraced by the community in the township for years. The Ingubo Childhood Development Centre is also a unique living lab where orphans can receive support to graduate high school.

Since the introduction of Design-Based Education in South Africa, all Grand Tour minor courses have had living labs. These labs rotate based on the needs of partners in the work field. These are often located in the Port Alfred area (Event Management) or with companies such as Game Lodges (Lodge Management), Game Reserves (Wildlife Management), the local industry (Change & Innovation Management), or Hotels (Strategic Revenue Management). Through excursions, and in some cases tours of more than a week, students are taken to the 'lab' where they are presented with various dilemmas. They learn how to analyse the structure of the operation and understand the environment in which the organisation operates. Local schools also offer unique opportunities for Grand Tour students; they get to participate in challenging and memorable practical experiences.

A lot is happening at the partners, ranging from local schools to social initiatives to international hotel groups. It's all happening from Port Alfred.





PASSPORT

MyPond Hotel

Students Hotel Management

Running a hotel,
business improvement

PASSPORT

RV Entrepreneurship Centre/ Ingubo Childhood Development Centre

Minor Social Entrepreneurship

Supporting local entrepreneurs,
business improvement

Schools, Companies, Municipality,
Non Profit Organisations

Website
www.stenden.ac.za

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adminsa@nhlstenden.com

2.25. 3D Printing Lab

Building prototypes with 16 different 3D printers

The first thing to catch your eye when you walk into the X Lab is a massive and impressive structure of 3D-printed objects, showing a beautiful variety of figures and objects, from pineapples, Pokémon characters and spaceships to a replica of the head of digital artist Leon Knook.

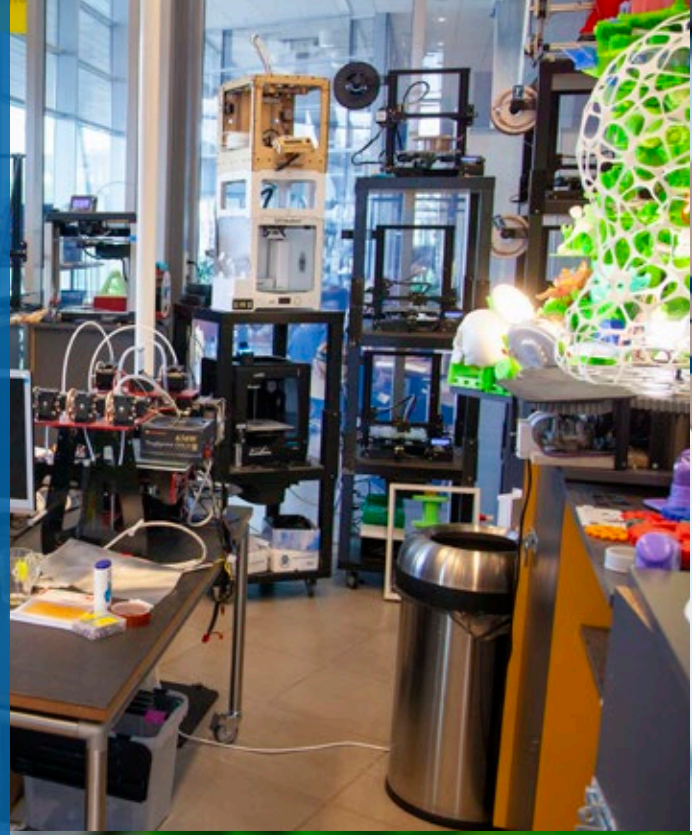
In 2016, Leon was the one who started the 3D printing lab with Martin Renema. This development was due to the Document Centre's need for a 3D printing service. Due to insufficient space in the Document Centre, the decision to house the printing service in the X Lab was quickly made. Every year, the number of 3D printing jobs grows, and the printing service now employs several work integration employees in addition to Leon himself. Since its establishment, the lab, its capabilities and activities have grown, so there is a great need for expansion. Sixteen 3D printers, all different in varying degrees, offer a range of possibilities for 3D figure printing. Students, teachers and externals can use the services of the 3D printing lab: anyone can walk in and get help creating a 3D model. The lab also organises workshops. The printing itself is done by the employees of the 3D printing lab.

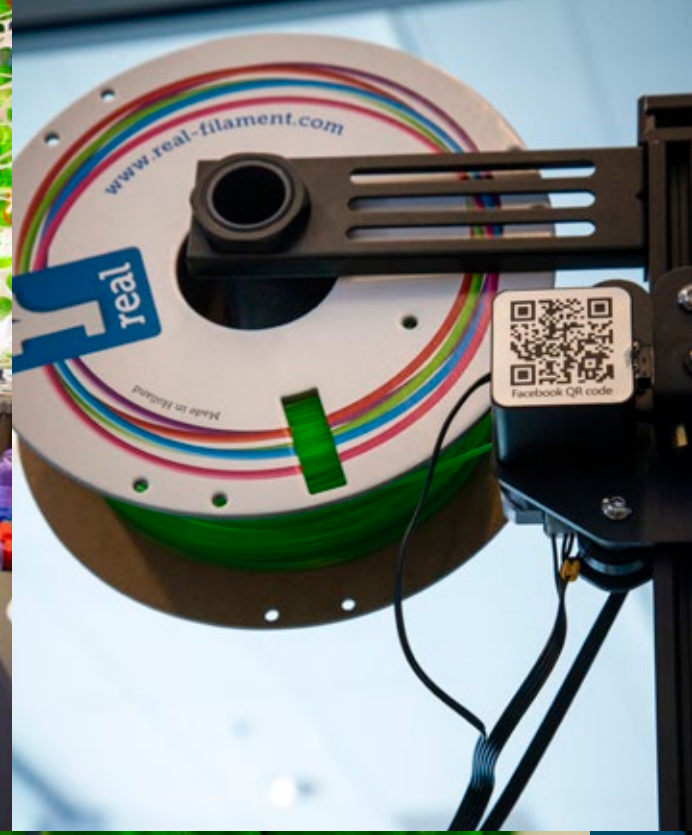
The lab uses several standard design programs to design 3D models. It doesn't matter which operating system you use; there's something for everyone. For example, the lab often uses Fusion 360 and Sculptris, both suitable for Windows and Mac, but also TinkerCAD, which runs in a browser and is an actual device agnostic. Because of the connection with the Sustainable Plastics professorship, the 3D printing service is not the lab's only service. The professorship collaborates with Windesheim in a partnership called Green-Pac. The 3D PrintingLab is participating in research into new techniques and possibilities for extending printers to enable larger-scale printing. One unique development is the Recycling Printer. As far as we know, the 3D PrintingLab is the only lab that has rebuilt the Recycling Printer, a printer that can reuse existing plastic, for example, from bottles, and repurpose used plastic.

The lab's Sixteen 3D printers offer a wide range of possibilities for creating objects.

D 0.039 (AT THE FRONT OF X-LAB)
RENGERSLAAN 10
LEEUWARDEN

FACILITIES KEY FACTOR





PASSPORT

3D Printing Lab

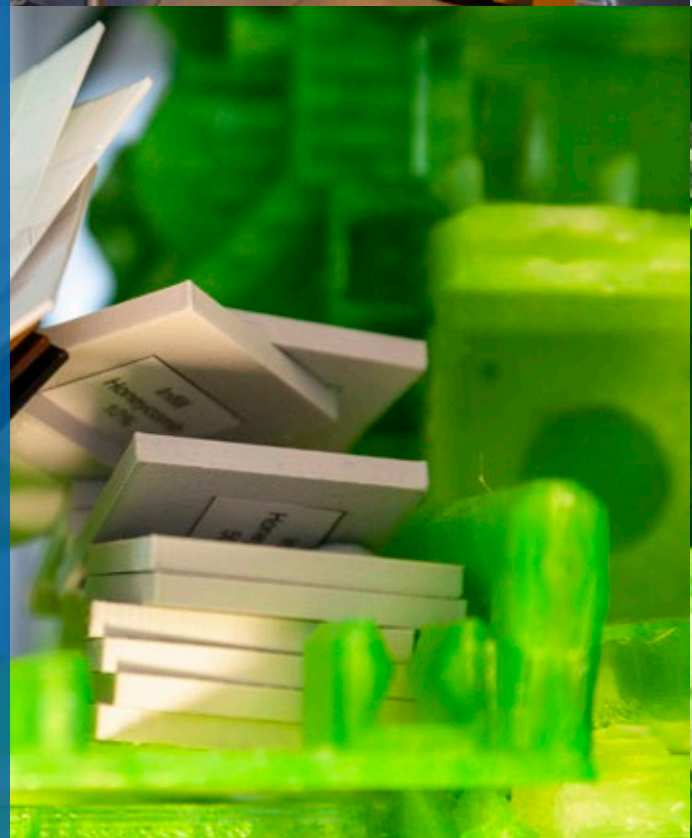
FDM 3D printers, Resin 3D printer, Chalk powder 3D printer, Recycling 3D printer. Software: Fusion 360, Sculptris, Tinkercad, various slicers.

Available to all staff and students NHL Stenden

3D printed objects. Specialised in 3D recycling printing.

Website
https://xlab.services.nhlstenden.com/3dprintinglab/

Contact
3dprintinglab@nhlstenden.com



2.26. Mechanical recycling Lab

From plastic waste to pure raw material

The Circular Plastics professorship has worked in the Mechanical Recycling Lab since early 2019. In this lab, students, teachers and researchers lay the foundation for optimal recycling of plastic packaging material. Sorting, reducing, and washing: that is what's happening in the lab. But as simple as that sounds, it's not that at all.

A rubbish truck delivering research material. It might sound unbelievable, but waste processor Omrin is the supplier of plastic waste that researchers and students in the Mechanical Recycle Lab are only too happy to investigate. Is it PET, PP or PE? That is the big question. Three different types of plastics - also known as polymer types - that are indistinguishable to the naked eye. But for the recycling process, sorting them is essential.

The lab uses two advanced camera systems for this sorting process: the NIR camera and the hyperspectral camera. Both types can determine, in a split second, the type of plastic involved by identifying the different wavelengths in the infrared spectrum. The hyperspectral camera takes that a step further. Collaborating with the Computer Vision professorship, the lab developed this self-learning smart camera, creating a vast database of knowledge, which is indispensable for delivering the cleanest possible recycling product.

After the sorting phase, the sorted plastics are sent through the shredder and get a good wash in the washing system. Finally, the wind sifter separates the plastic pieces by form and density, leaving an excellent raw material ready for the next step with the colleagues at the Plastic Lab in Emmen, who turn it into granules. The students at the Circular Design Lab in the Blokhuispoort can then use these granules to create new products. As such, the Mechanical Recycling Lab forms the basis for a beautiful three-step circular process, from raw material to final product and from final product to raw material: this is what the Circular Plastics Circle is all about.

> In collaboration with the Computer Vision professorship, the lab has developed a self-learning hyperspectral camera.

PASSPORT

Mechanical recycling Lab

Hightech recyclelab and hyperspectrale camera, infrared spectroscope, windsifter and washing system

Students of the programmes Chemistry, Mechanical Engineering, Chemical Engineering, Electrical and Electronic Engineering and Applied Mathematics.
Minor Circular Plastics,
Minor Sustainable Polymers

Collaboration with parties from waste management, recycling and plastics production.

Collaboration with the professorships Circular Plastics, Watertechnology and Computer Vision & Data Science

Knowledge of methods for mechanical recycling and the potential of different waste streams for recycling

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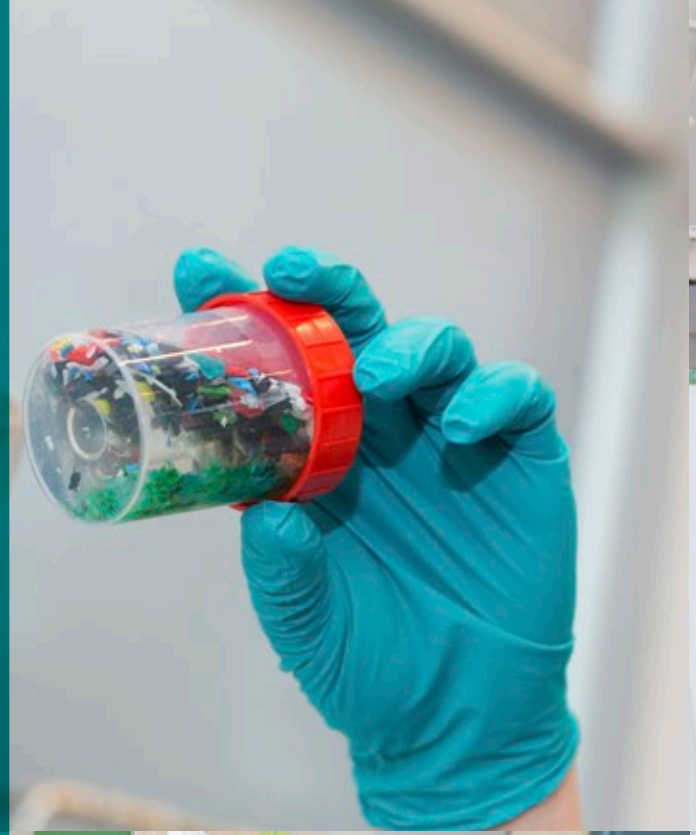


PASSPORT

Plastic Lab

Plastic recycling equipment,
3D printers, Kuka robotic arm

Minor Sustainable Polymers,
Minor recycling of polymers

Collaboration with business
through GreenPAC

Research on biopolymers,
sustainable fibres, biocomposites
i.c.w. Professorship Sustainable Plastics

Contact
geraldine.schnelting@nhlstenden.com

2.27. Plastic Lab

Collaborating on innovative and sustainable plastic use

The Plastic Lab dates back to when the Emmen location was part of the Drenthe University of Applied Sciences. Nowadays, the NHL Stenden Plastic Lab is part of the Technology & Innovation Academy. The lab is closely linked to the Circular Plastics professorship, and it is a place where collaboration with students, other institutes and businesses is considered vital.

The Sustainable Plastics professorship started in 2011 under the leadership of professors Jan Jager and Rudy Folkersma. It conducts research and provides education about the innovative and sustainable use of plastics, including recycling (mechanical and chemical), sustainable product development, biopolymers, 3D printing, sustainable fibres and biocomposites.

In 2013, a partnership was established between the NHL Stenden's Sustainable Plastics professorship and the Windesheim Plastic Technology professorship, under the name Green PAC. Green PAC is an open innovation centre where students can be involved in applied research and business innovation realisation. One of the locations of Green PAC is the Plastics Lab at the Van Schaikweg.

The lab is situated on the ground floor and has several appealing and exciting facilities, including large injection moulding machines, extruders, test equipment, laser cutters and 3D printers. There is even a Kuka robotic arm in the middle of a steel cage. In the Plastics Lab in Emmen, students from Life Science programmes and Mechanical Engineering students work on various assignments, collaborating with students from various Brazilian universities on several interesting collaboration and exchange projects. In addition, the Plastics Lab offers the minor course Sustainable Polymers; graduate students and internship students collaborate with the professorship Sustainable Plastics or Green PAC on authentic assignments from the business community. The lab is still growing and, with its valuable connections and partnerships, offers many opportunities for students, the university of applied sciences and the region.

> There is even a Kuka robotic arm in the middle of a steel cage

2.28. STEAM Lab

Stimulating curiosity in young and old

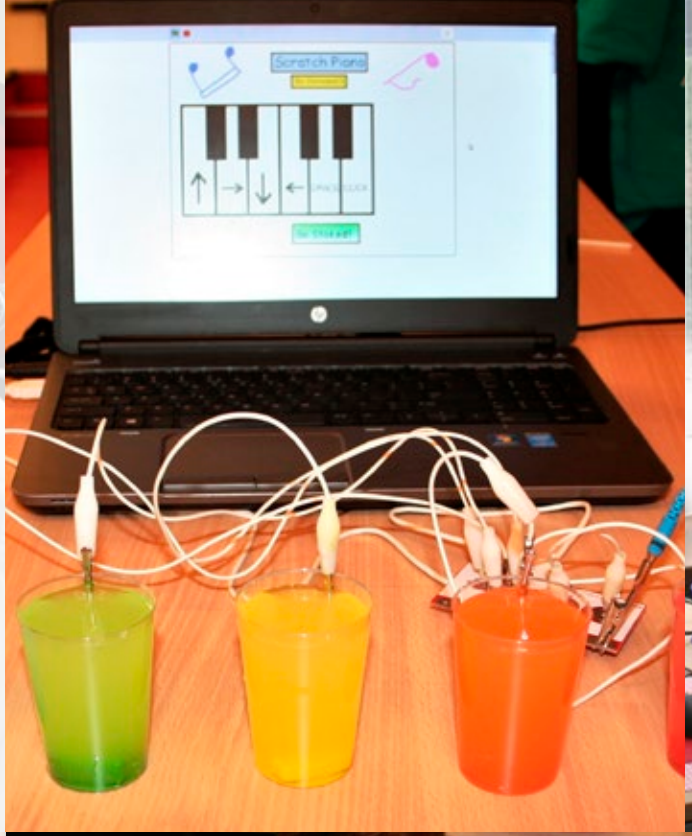
If you walk into the STEAM Lab in Emmen, they immediately catch your eye: the white lab coats on the coat rack. From toddlers to group 8 pupils, there's a white lab coat for every junior engineer. Accessibility is the core of the STEAM Lab. All students from the Education in Primary Schools programme are welcome there, throughout their programme, to use all the available facilities.

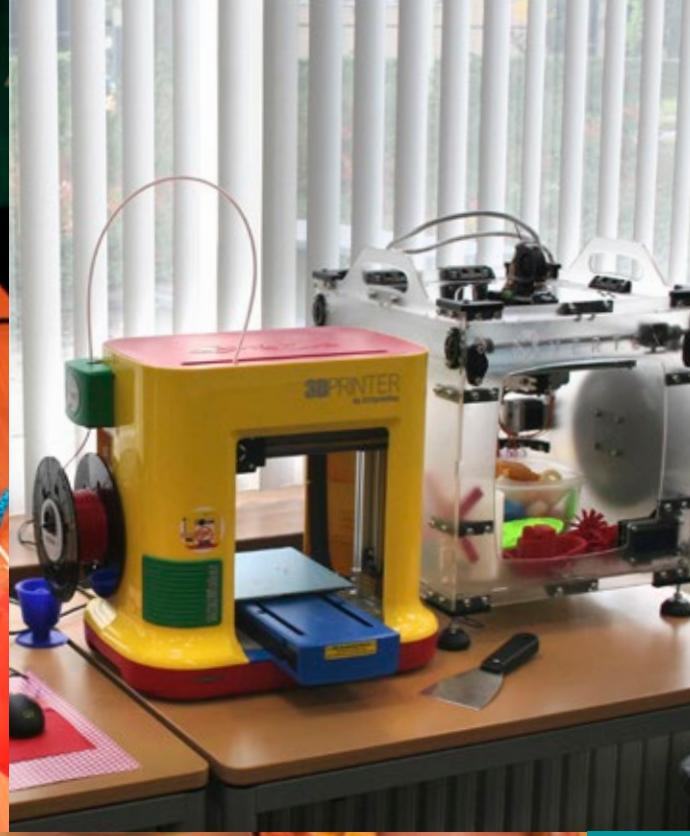
After all, you learn best by doing. That philosophy formed the basis for the STEAM Lab in Emmen in 2013. The abbreviation stands for Science, Technology, Engineering, Arts & Mathematics. In short: this lab brings together all the primary education subjects. From glue and paint to 3D printers and micro bits, the STEAM Lab has everything you need in your classroom. That's precisely the purpose of the lab. Education in Primary Schools students can test the equipment themselves and borrow it for use in their primary school.

> After all, you learn best by doing

The STEAM Lab also invites students to work on innovations. They can discover how things work by actively using them and then apply this knowledge in their lessons. The lab has been a fixture of the four-year curriculum of the Academy of Primary Education in Emmen for years. From learning how to program to making 3D paint, the STEAM Lab is a place where curiosity is stimulated.

To convey this curiosity to the future generation, the STEAM Lab actively collaborates with the region's primary schools, municipalities, the business community and fellow knowledge institutions. For example, teacher training students regularly teach guest lessons at schools, are active within the Dutch Tech Zone, participate in the Tech Works initiative and give workshops at the JackLab in Assen. Another fixture on the calendar is the annual Science Weekend when the STEAM Lab opens its doors to young and old.





PASSPORT

STEAM Lab

From 3D printers and robots to glue and paint tubes

Students academy Primary Education

Regional collaboration with primary schools, municipalities and industry

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crista.casu@nhlstenden.com
san.kroezen@nhlstenden.com

2.29. MIWB Simulator Centre

The perfect bridge between virtual education and practice

The best navigators are on shore, according to the old saying. In the case of the Maritime Institute Willem Barentsz (MIWB) on the Dutch island of Terschelling, that is absolutely not the case. Students are taught in a state-of-the-art Simulator Centre. Using Virtual Reality, they can take a seat on the bridge or look in the ship's engine room - a living lab where nothing is left to the imagination.

Radio communication, loading or manoeuvring a ship in an overcrowded port: in the MIWB Simulator Centre, MIWB students practice all kinds of situations they will encounter in real life. For example, a teacher can load a ship, and order the students to start up all systems to prepare the ship for departure. Air, cooling water and electricity: with VR glasses or an Xbox controller, students in the virtual machine room start working on different scenarios, such as overheating, fire and leakage.

In addition to the engine room and the navigation bridge, the MIWB has specialised simulators. Students from the Ocean Technology programme can use the simulator to scan the seabed. Or the simulator can be used to simulate a trailing suction hopper dredger, allowing students to train in dredging and navigating in busy harbours.

Industry professionals also like to use the MIWB simulators. Everyone knows how to find Terschelling to retrain employees and obtain the necessary certificates, from offshore companies to ice shipping companies. The MIWB regularly organises training courses for the work field. The simulation models developed at MIWB are used around the world; from the United States to the Philippines, MIWB's simulation education impacts the teaching materials used by trainers worldwide.

> Students use VR glasses or an Xbox controller to work in the virtual machine room

PASSPORT

MIWB Simulator Centre

Part of the MIWB on Terschelling

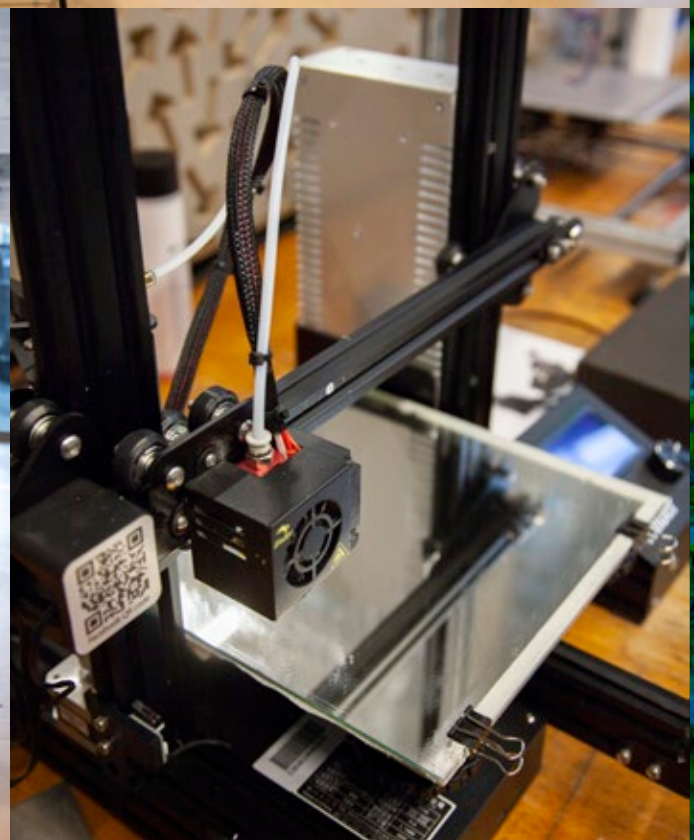
Maritieme Officer and Hydrographic Surveyor students

Collaboration with the professorships Maritime Innovation Techniques and Maritime IT Security

Courses and training for the professional field

Website
miwb.nl

Contact
miwb@nhlstenden.com



PASSPORT

Circular Design 3D Print Lab

Shredder, dryer, filament maker, 3D printer, oven and PIM shooter.

Students Mechanical Engineering, Chemical Engineering, Chemistry, Industrial Engineering & Management, Applied Mathematics and Electrical and Electronic Engineering
Minor circular plastics and sustainabe polymers
Hanzehogeschool, UAS Windesheim and TU Delft

National Circular Plastics Test Centre, business, healthcare, hospitality industry

Part of the Professorship Circular Plastics
Collaboration with the Professorship Smart Sustainable Manufacturing

Development of products based on recycled plastic
Workshops and brainstorming sessions for industry

Contact
Mariska.van.cronenberg@nhlstenden.com

Website
https://www.nhlstenden.com/onderzoek/circular-plastics

G0.038
RENGERSLAAN 10
LEEUWARDEN

FACILITIES KEY FACTOR

2.30. Circular Design 3D Print Lab

Reuse of plastic using the principles of circular design

In the Circular Design 3D Print Lab, two worlds come together: circular design and 3D printing with recycled filament. It is a practical space with all the devices you need to make a 3D-printed product from used plastic products, such as packaging. The machine that can process plastic chips to create new filaments for 3D printers catches the visitors' eye.

Students from various disciplines and universities of applied sciences can use the lab to carry out projects in the context of their programmes. The students' work focuses on plastics and product development, applying the principles of circular design. Circular design means designing products in the most sustainable way possible, saving and reusing as many raw materials as possible. Prototypes and products can be produced with the facilities in the lab, taking into account the R strategies for a circular economy.

The lab is currently used to set up a local closed-loop circuit within the hospital. Using recycled filament, the lab prints products for hospitals, such as connectors, clips, connecting parts, clothing hangers, etc. Product-oriented development at the lab focuses on substantially reducing the Plastic Soup and giving plastic waste from the sea a second life.

Besides being a place for students, the Circular Design 3D Print Lab is also a place for research. The Circular Plastics professorship researches product development, mechanical recycling and chemical recycling. It has four key themes: 3D printing, biopolymers, sustainable fibres and biocomposites. Each theme is linked to different research projects. For example, research is being carried out into developing new biobased plastics such as copolyesters from renewable raw materials, sustainable ink for 3D printers, and composite products based on natural fibres. There are also ongoing studies looking into closed-loop material circuits in healthcare and stimulating sustainable behaviour with plastic from the sea.

The professorship is a collaboration between the Van Hall Larenstein and NHL Stenden and consists of teachers, researchers and teacher-researchers. It has labs in both Leeuwarden and Emmen. The professorship closely collaborates with businesses on product development, trying to find ways to close the plastic cycle using the circular design R strategies.

The minor course Circular Plastics and Sustainable Polymers is seen as a future opportunity, but that is not where the ambition ends. Another dream of this new lab is to bring circular design and 3D printing with recycled filament into the spotlight. By connecting with education and integrating circular design ideas, we contribute to the sustainability of the Universities of Applied Sciences and the industry.

Research and practice come together in the Circular Design 3D Print Lab.

2.31. Meppel Design Factory

Inspiring project environment for the International Teacher Education for Primary Schools

The location in Meppel has an old gym that has been completely renovated. It is the gym of the International Teacher Education for Primary Schools (ITEps), our international teacher training programme. The room is no longer being used for physical education; it has been transformed into the Meppel Design Factory where students from ITEps work on projects.

In 2016, ITEps became an independent study programme. The programme expanded rapidly and housing it soon became problematic. There was also a (pre-existing) need to redesign education. In search of a solution, Ton Gelmers, the location manager, and his colleagues found the old gym. An architect completely redesigned the room, and in September 2018, the MDF was ready for use. Several gym elements have been preserved, such as the ropes, a vault and a basketball net. The design incorporates natural materials such as wood and plants. Some walls are covered with cork, which allows students to stick documents on them, and the material also buffers sound. This is convenient because the Meppel Design Factory can house at least 130 students at a time.

Students are free to enter and leave to work and study together. Several open spaces and rooms can be closed off. On a designated wall, students can leave questions for the teachers, and a workshop is organised if there is sufficient interest. Most teachers at ITEps are also coaches at the Meppel Design Factory. Teachers receive a global annual calendar but create their schedules mutually. One of the aspects that underlines the success of this lab is that students also can and will use the facilities at night, when there are no lessons and teachers. Four nights a week, student assistants and the security department are responsible for clearing and closing up the lab.

> Students are free to enter and leave to work and study

The Meppel Design Factory is still young and full of energy; it has a bright and promising future. The lab is collaborating with a master's programme at a university in Hong Kong, and there are plans to expand the collaboration with several international schools in the Netherlands and increase the connection between students of different elective minor courses. In the words of Ton Gelmers: The sky is the limit!

PASSPORT

Meppel Design Factory

Former sports facility converted into flexible study space

Project environment of the programme International Teacher Education for Primary Schools (ITEps)

Contact
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3. Models for designing and evaluating ateliers

Designing and implementing an atelier is a complex task. Based on our experience and various publications on hybrid learning environments, Design-Based Learning and Challenge-Based Learning[4] and using models such as Business Model Canvas and the INK Management Model, we have created the Value Creation Model below and a model with education design dimensions. Both fit in with DBE and our objectives for the ateliers (Sinia & van Diggelen, 2023). We hope that both models offer support to develop an atelier, explain choices, and determine and evaluate the value of the atelier.

3.1. Value Creation Model for Ateliers

The Value Creation Model aligns with models for 'backwards design'; this means that, with the goal in mind (a value/revenue), you look at what you are going to do to achieve the goals (activities) and who you need to do so (stakeholders).

[4] *(Cremers, 2016) (Fontys, 2021) (Zitter, 2021) (Gómez Puente, 2014) (van den Beemt, van de Watering, & Bots, 2022)*

Each component is characterised by several concepts/options. The coloured parts form the core. The grey parts are related to the context in which the atelier operates, the preconditions and organisational aspects (below). The various parts are closely related and influence each other. The purpose is to achieve constructive alignment. The next page shows a brief explanation of each part, with several key questions.

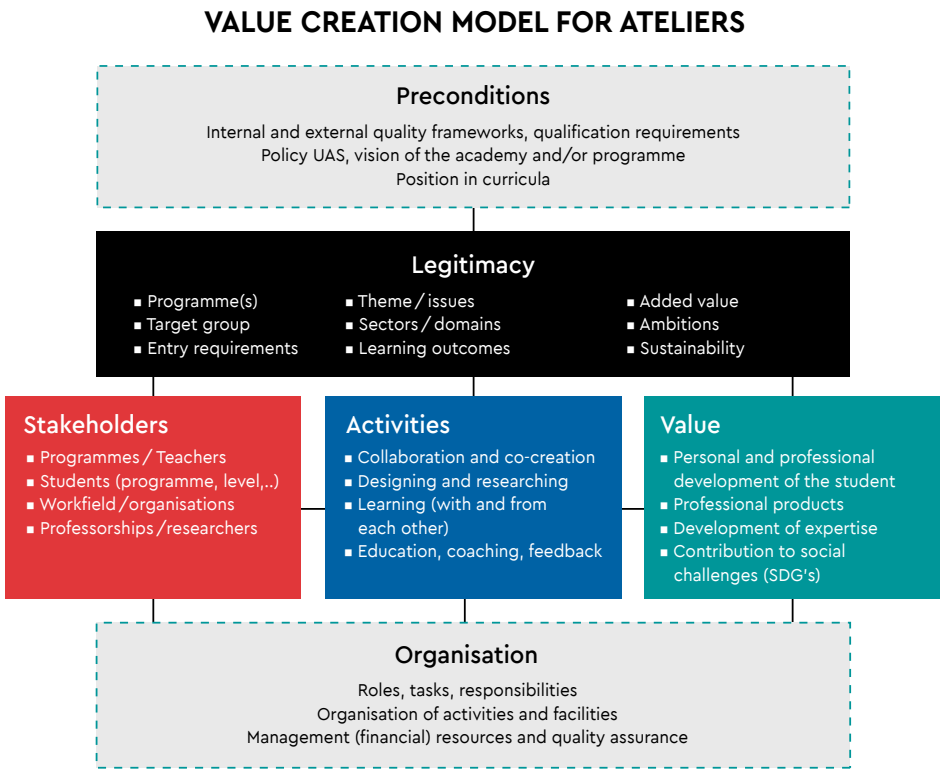


Figure 4: Atelier Value Creation Model

Brief description of the parts:

Preconditions: an atelier is not a stand-alone concept; it operates within the context of the programme, the university of applied sciences and beyond.

Key questions:

- What preconditions and policy choices does the atelier have to consider?
- What quality requirements does the atelier have to meet?
- What choices have been made regarding the role of the atelier in the curriculum?

Legitimacy (the why): an overarching statement about the atelier's rationale. This explanation determines the direction of the design choices.

Key questions:

- What is the reason for developing the atelier? What needs are being met?
- What type of issues does the atelier address? What is the content profile?
- For which students and organisations is the atelier of interest?
- What are the short-term and long-term ambitions?

Value (whereto) refers to the atelier's intended learning objectives, outcomes, and/or value. The model shows examples of results, from micro to macro levels.

Key questions:

- What are you trying to achieve with the atelier?
- What is the added value for students, the work field and/or other parties?
- What do you want students and others involved to experience?
- How do you measure success? When is the atelier considered a success?

Stakeholders (who): includes those responsible for or participating in the atelier.

Key questions:

- Who do you need to achieve the goals?
- Which programmes and other parties do you want to collaborate with specifically?
- What input do you expect from the various stakeholders?
- How do you use the qualities of the stakeholders

Activities (what): deals with the activities in the atelier. The model lists some activities that vary in their focus. Ateliers can have different accents. These may include design, research, learning, and/or educational activities.

Key questions:

- What activities are needed to achieve the objectives?
- What do students and other stakeholders need?
- How do you stimulate learning (from and with each other)?
- What activities taking place aside from the atelier must be taken into consideration?
- What level of collaboration (multidisciplinary, interdisciplinary, transdisciplinary) do you want to achieve?

Organisation (how): deals with the organisational design of the atelier and how you organise the activities.

Key questions:

- How do you set up the atelier? What agreements and rules are essential?
- How do you divide roles and tasks?
- Where do activities take place, and when?
- What resources and facilities do you need?

The memorandum 'Waardecreatie in Ateliers' (Value Creation in Atelier) (Sinia & van Diggelen, 2023) discusses the Value Creation Model and its different components in more detail. It refers to interesting sources, describes experiences and makes suggestions.

3.2. Educational design dimensions for ateliers

Op basis van onze ervaringen en diverse bronnen hebben Sinia en Van Diggelen (2023) ontwerpdimensies geformuleerd waarop ateliers kunnen verschillen. Dit model functioneert als een soort schuifpaneel waarbij schuifjes op de huidige of gewenste situatie geplaatst kunnen worden. Het schuifpaneel kan helpen onderwijskundige keuzes te maken of te expliciteren.

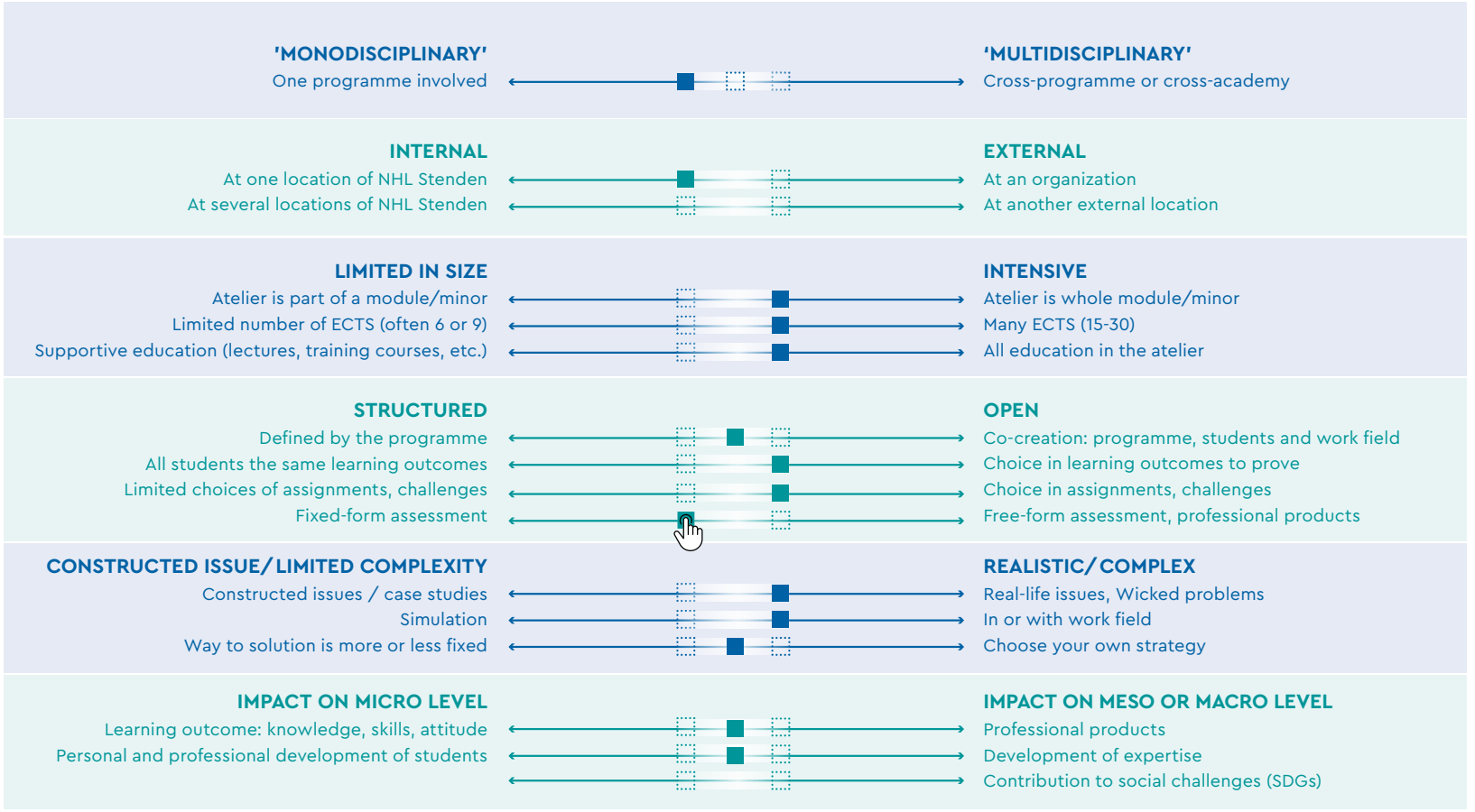


Figure 5: Educational design dimensions for ateliers

4. The influence of the environment on learning

"Take the space and time to create an effective learning environment together" Siebren Baars, teacher-researcher and architect

The laid-back geography teacher who let you eat candy in the classroom. That cheerful French teacher who was always playing French chansons in class. When you ask people about their school memories, there's always a handful of remarkable teachers that come to mind. The learning environment, not so much. Hardly anyone remembers a classroom or study room, even though the learning environment greatly influences your learning process. Teacher-researcher and architect Siebren Baars researches the relationship between the physical learning environment and the psychosocial learning environment.

When you put images of historic school buildings in chronological order, the architectural developments tell you the story of trends in education. "You see that the architecture of school buildings adapts to the prevailing educational vision," says Baars. "Where school buildings were previously designed hierarchically, with the headmaster's office in the middle and classroom wings on either side, this changed over the years to a clumping of uniform building elements, depicting the principle of equality in the 1980s. The old part of the former NHL building, a design by Abe Bonnema, is a good example of this building style."

> Open spaces with many windows improve internal communication

The recent modifications and expansion of that building are very different. The new design is a creation by Studio Herman Hertzberger. Baars: "The new trend is more and more open spaces with lots of glass, which facilitates better internal communication and brings the outside indoors. You can see this as the architectural realisation of the information-intensive society where everyone is available for information exchange 24/7."

Consuming and reproducing

How different it was in the old days, with tall, narrow windows that prevented children from looking out, so typical of school buildings from the nineteenth century. "During the Industrial Revolution, it was important that children learnt to contribute to the production process," Baars explains. "Actions, as well as knowledge, had to be reproduced. Deviant behaviour was not tolerated, and pupils were conditioned to listen and repeat knowledge. Consuming and reproducing were key."

Over the years, the concept of consuming and reproducing has given way to individualising and constructing. Baars: "Nowadays, knowledge has a very brief shelf life. How you acquire and apply that knowledge has

become much more important than actually possessing it. These days, we want to realise other learning outcomes. That requires a different learning process and, therefore, a different learning environment."

Physical and psychosocial

Two things are essential here: the physical learning environment and the psychosocial learning environment. "The physical learning environment includes the characteristics of the room," Baars explains. "Think about the amount of light, air quality, size and acoustics. The physical learning environment also means facilities and furniture. Can you use a table in different ways? Are the facilities and internal decoration suitable? Is it possible to set up the room or quickly adjust it to your needs? And finally, the physical learning environment is determined by how much the room stimulates the learning process. An environment should make pupils curious and raise learning questions."

Then, there is also the psychosocial learning environment. Baars: "This deals with questions such as: what effect does this setting have on you mentally? Do you feel accepted? How do you perceive the relationship with your teachers? How supportive are they? What is expected of you, and do you feel competent enough to achieve it? Do you like what you learn? In other words, it is about the psychological impact of the social learning environment."

Continuous interaction

With the new learning outcomes that our information-intensive society demands, the educational world often focuses on changing the psychosocial learning environment, Baars notes. "First, we look at the learning objectives, the relationships between them, and the system organisation. Only then do we realise that the physical environment influences the psychosocial learning environment. This can be observed in scientific research into new learning environments, but also in schools that change their education system."

As an example, Baars mentions school buildings with standard classrooms. "A standard classroom is fine for instruction but less suitable for working together in different groups. It can be disruptive. Standard classrooms also make it hard for teachers to supervise several groups: the walls block the view and limit exchanges and mingling. People can be very creative in using the space, but the space itself is not neutral. There is a constant interaction between space and use. It is precisely this interaction that is essential to achieve the intended learning outcomes."

II'm the boss here

In the search for that interaction, it is important to realise that an environment is determined by three different perceptions.
Baars emphasizes: "These are: how the space is intended, how the space is used and how the space is experienced. The latter makes it easy to check whether what is intended actually works." Evaluating the learning environment with students and teachers is therefore extremely essential. It shows that the organisation of how the space is used is vital for the realisation of the intended use. It makes quite a difference whether a team owns a space and whether the team is supported by specialists when using the space for educational purposes. Teachers must also learn to use a new area in an educational way properly. "Every design cycle ends with an evaluation. So why not do that when developing our learning spaces and ateliers?" Baars wonders aloud. "Together, you can check if the space works. What is actually happening there, and why? But above all, how do the students and teachers experience the environment? How does it make you feel? And then take those experiences and learn from them."

> We live in an information-intensive society where knowledge has a very limited expiration date.

In general, teachers and students quickly revert to traditional forms of education, Baars notes "Teachers tend to get in front of the class and transfer their knowledge in the traditional way. Especially if the classroom has a clear front with a school board, a chair and a desk for the teacher. In short, the physical learning environment is sending the message 'the teacher is the boss here'. Teachers and students will then behave accordingly. When thinking about an educational room, it is therefore important to change your way of thinking: what type of education do we want to offer? What type of work forms do we want to apply? And what conditions are needed to support those work forms?"

Room for individualisation

Baars likes that there is room for individualisation when realising the ateliers within NHL Stenden. "By giving spaces their own identity, you can connect with the place. That's what matters, particularly in this day and age, because the boundaries are blurring." However, according to Baars, there is no ready-made recipe for a successful atelier. "You cannot copy solutions from others. There is no 'one size fits all' solution. Take the time and space to work together to create and maintain an effective learning environment through periodic assessments and knowledge sharing, within a team, between teams, but also between teams, experts and policymakers. This book is a good example of that. However, it would help if you realised that thinking about the learning environment is never-ending. Education is continuously developing."

5. Researching ateliers

For a successful implementation of Design-Based Education, including working and learning in ateliers, it is crucial to gain knowledge about what works and what doesn't, to keep developing in a targeted way (evidence-informed). The Design-Based Education professorship and those stakeholders involved in theme 1 of the quality agreements are jointly researching this topic to strengthen the practice of teaching in ateliers. Below, we give an impression of the results of the (ongoing) research.

5.1. The programmes' visions on ateliers

In the spring of 2023, the course documents of 26 NHL Stenden bachelor programmes[5] were analysed based on the information they contained about ateliers.[6] The emerging picture was that almost all programmes mention the ateliers in their course document. Ateliers are usually included in all years, alongside other forms of education. Some programmes distinguish between types of ateliers, such as research ateliers, course ateliers, simulation ateliers and/or practical ateliers.

Ateliers are almost always related to collaboration on real-life issues and the implementation of the different phases of DBE. Some programmes describe the atelier as a learning community of students, teachers, the work field and researchers. Other programmes emphasize student collaboration. The atelier is often located within NHL Stenden, and sometimes in dedicated atelier rooms. For some programmes, the ateliers are situated in the work field.

Most programmes describe the development of the student as a result. Some programmes also identify the contribution to professional products or social issues as a result. Half of the programmes mention the role of the work field as the customer. Many other programmes describe the active participatory role and the co-creation that takes place as part of the programme. The involvement of researchers in ateliers is less explicitly mentioned. Teachers are mainly described as process facilitators but are also mentioned as content experts, instructors or individual supervisors. The overall impression is that the vision on education in ateliers can be refined even further, so that ateliers can develop even better.

[5] The course document mostly discusses the major courses; minor courses are discussed less often.

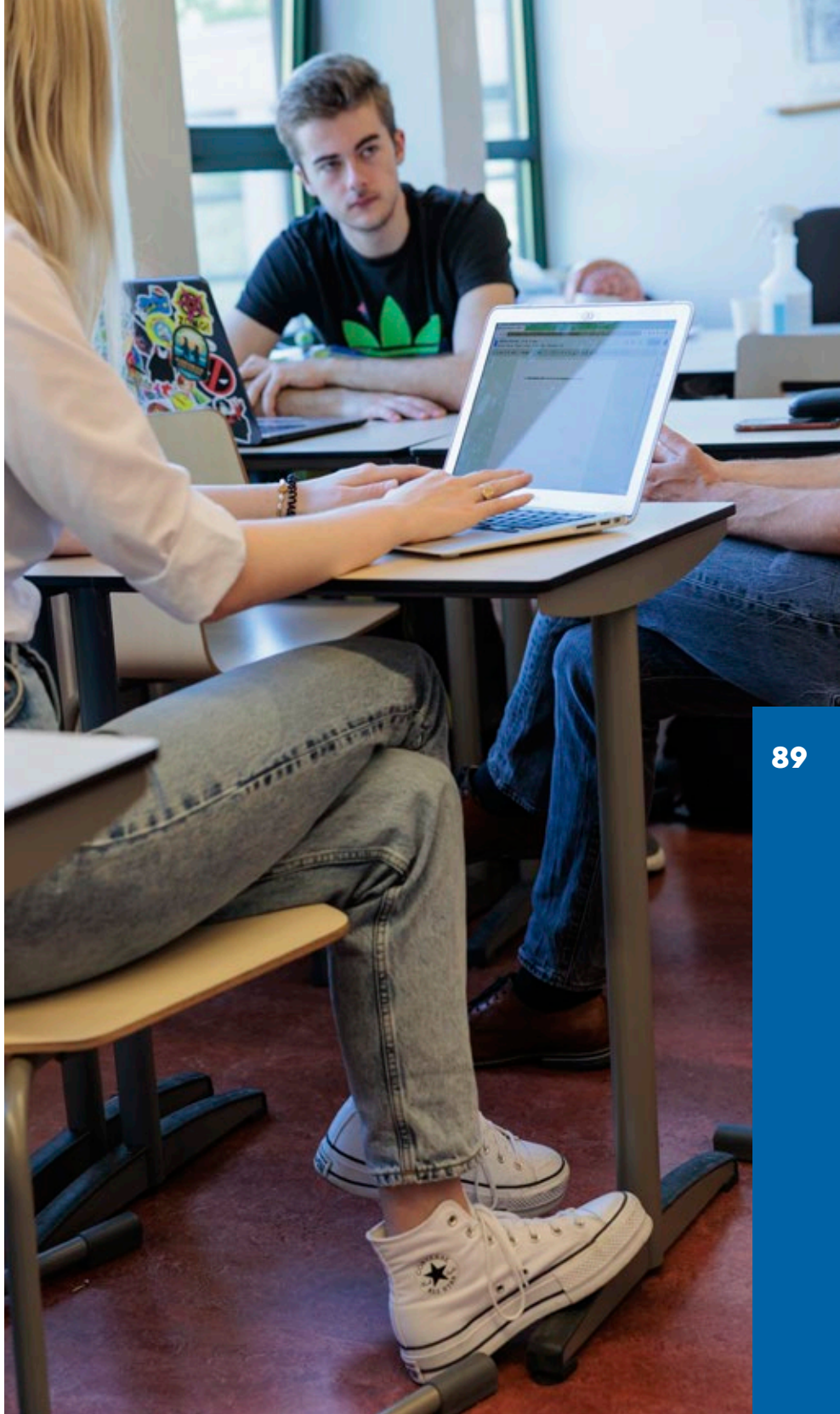
[6] The analysis was performed by Floris Langen, Geja Kinds and Francine Behnen-Bonenbakker.

5.2. Transdisciplinary collaboration within the Social Domain Ateliers

Hendriksen and Schaap (2023) have researched, among other things, the collaboration with the work practice and transdisciplinary collaboration in the Social Domain Ateliers (SDA) at various municipalities. They indicate that ateliers are primarily a learning environment for students, where both the work field and the education field are looking for appropriate issues for students. Contributing to the common understanding is pushed somewhat into the background.

Students participate in an SDA as part of their programme (minor, project, graduation or master programme). They are trained within their own programme, with corresponding perspectives and semantics. Learning and working together on a complex issue in a practical setting means that students learn much about each other's perspectives and language during the semester. The accompanying teachers explicitly focus on group dynamic processes among the students, ensuring that students understand each other's subject and area of expertise, thus achieving more interdisciplinary collaboration and learning.

Although students learn a lot from each other's perspectives and language, it appears that students from different programmes still have difficulty understanding each other's perspectives and language. This seems to be reinforced by organisational matters. The participating programmes use their own learning outcomes, requiring students to meet those learning outcomes, make different time investments and be less open to joint processes and results. This is an issue for those ateliers that transcend programmes or academies. Dealing with complex issues requires flexibility, courage and adaptability at the student, atelier and broader network levels. At the same time, there is also a need for a common structure at these levels.



5.3. The roles of the teacher

The teacher has a strong influence on the quality of education. However, various sources and studies show that teachers would like more guidance when determining their tasks in DBE and in the ateliers (Van Diggelen, 2022). Against this background, Assen and Van Diggelen (2023) carried out design-based research to explicitly and concretely establish the tasks, competencies and roles of the teacher in DBE. The result is the 'DBE team model' below. The main tasks for teams are:

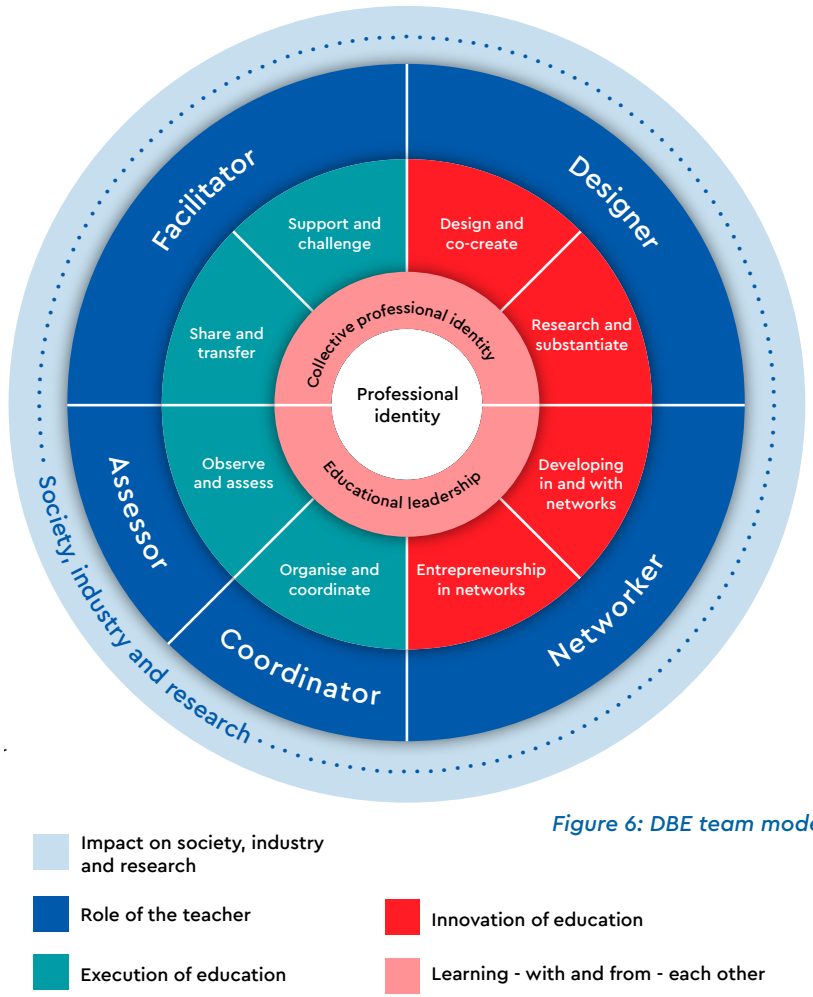


Figure 6: DBE team model

execution of education, innovating education and learning with and from each other. To innovate education, the roles of the designer and networker have been described separately. When executing education, a teacher plays the role of facilitator, assessor and coordinator of education. Learning from and with each other is part of the role of the learner. The model is shown in Figure 6. The various aspects of the model have been further elaborated in a report (Assen & van Diggelen, 2023). The model is intended as a discussion tool that allows the different teams to specify the roles and tasks of a teacher and to give them meaning in the specific context.

5.4. Research into practices in ateliers

There is also already some research available that can help specify the teacher's tasks and roles.

5.4.1. Facilitating the design process

Wildeman-van der Hauw's research (2022) helps shape the teacher's role in facilitating students who are applying Design Thinking in ateliers. In her group-concept mapping study, the teachers' statements mentioned several themes. The first theme was the transition from more teacher-led to more student-led education. For example, one comment was: "I'm trying to find the balance between giving students freedom and directing them within that freedom". The second theme that kept coming up in the statements was 'facilitating students to become Design Thinkers', as was illustrated by the following statement: "Sometimes you have to help students to make the design big, to ask divergent questions." The third theme relates to the role of the teacher in acquiring domain-specific knowledge. For example: "As a teacher, you hand them building blocks, thorough research and books that enable students to substantiate their choices." The research helps refine the teacher's role. The themes are familiar to many of our teachers. At the same time, for many teachers, these themes pose many dilemmas. As an organisation, we need to keep this in mind. We should make sure we adequately address the professionalisation needs of our teachers.

5.4.2. Coordinating an atelier

In their research of the Social Domain Ateliers (SDA), Hendriksen and Schaap (2023) also zoomed in on the role of the coordinator. They found that coordinators of multidisciplinary ateliers play a vital role in connecting different interests and parties. The coordinators form a connecting link between education and the work field, guiding the students' learning process and aligning with colleagues from relevant programmes. Coordinators describe their role as being a connecting link, a 'spider in the web' and a bridge builder.

In the study, the coordinators indicated that they need to be flexible, administratively and politically sensitive and able to improvise to apply the right knowledge and skills at the right time. One coordinator described 'embrace the common lack of knowledge appropriate to transition questions' as a challenge. This awareness and the development of support activities in this area prove helpful in lifting joint learning to a higher level in the ateliers. The research shows that being a coordinator in an atelier means more than just being a teacher and that connecting and cultivating your networks is crucial (Assen and Van Diggelen, 2023).

5.4.3. Design Thinking Knowledge

Wildeman-van der Hauw, Van Diggelen and Stoyanov (research ongoing) conducted a Group-Concept Mapping study into teachers' practical knowledge of Design Thinking. More than 40 teachers from the Academy of Communication and Creative Business (CCB) and 20 from the Academy of Primary Education (APO) performed the research tasks. They did not find substantial differences in the results of the programmes of both academies. The study provided insight into what teachers considered feasible and relevant about supporting Design Thinking. For example, teachers considered 'providing feedback on prototypes, sharing profits and broadening the focus of the student as a teacher and expert' to be feasible and essential. Almost all the relevant theories about design thinking can be recognised in the statements formulated by the teachers. Design Thinking as a way of thinking or mindset, ambiguity and complex problem solving, the use of research and design techniques, co-creation, iterative processes, people-oriented approach, diverging and converging, and a holistic approach were all mentioned. Noticeably, aspects that dealt with abductive reasoning were hardly mentioned. Abduction is the process of framing, experimenting, reflecting and reframing; it is characteristic of all creative processes (Dorst, 2011; Van Diggelen, 2021). Overall, it seems that more attention should be paid to the creative aspects of Design Thinking and how teachers make the 'creative leap' in design.

5.5. Plans for further research

The research so far has been mainly exploratory. The intention is to conduct more and larger-scale research on ateliers. For example, the first version of an Atelier Monitor was tested at three ateliers. The Atelier Monitor is an evaluation tool based on the design dimensions and the Value Creation Model (see Chapter 3 and Section 5.1) with statements about how an atelier is intended, how it was realised according to teachers, how students have experienced it and what they have learned. The Atelier Monitor is primarily designed as a research tool and for systematic data collection. However, by using the monitor as a discussion tool, it can support ateliers to adapt their work field to how the atelier is intended, or vice versa, and provide new points of departure for further development.

Reflection and recommendations

Working and learning in so-called ateliers is one way of contributing to the personal development of students and the social progress of the regions where we operate. All NHL Stenden programmes use ateliers in all years, with different accents for different programmes. The portraits in this publication show the richness and variety of the ateliers.

Collaboration with the work field and the researchers is extremely valuable for education. Working on genuinely relevant issues triggers learning and motivates students tremendously. The portraits in this atelier book show that many ateliers are working on practical and societal issues, resulting in advice, prototypes, creative solutions, didactic and developmental activities, interventions, workshops, papers, etc. The level of collaboration with the professorships in these ateliers is also remarkable. We know that dealing with different real-life issues, the dynamics of the work field and different professional products can be challenging for students and their teachers, which is why learning outcomes and the assessment of students must provide room to manoeuvre.

As NHL Stenden, we want to train innovative professionals who can collaborate across the boundaries of their discipline. This can be achieved, for example, in multidisciplinary[7] ateliers. Working together across the boundaries of the programmes and academies comes with the necessary challenges. It requires all those involved to be open to different attitudes and cultures. The organisation, systems and funding do not always make it easy to work together. If we want to realise our ambitions and collaborate more across programmes, academies and even institutes, we will need to make substantive choices, use more common language and provide the necessary guidance. Instead of creating 'multidisciplinary' ateliers from the ground up, we should facilitate 'multidisciplinary' ateliers that align with societal issues. Formulating several institute-wide learning outcomes in line with the 21st-century skills and facets of DBE could also facilitate collaboration.

The portraits show that those involved have shown courage and developed beautiful ateliers. We also know that teaching in ateliers is demanding for the teachers. Maintaining good contacts and gathering interesting issues or assignments calls on the teachers' networking skills and requires good relationship management. The role of the atelier coordinator as a link between education and practice is crucial. Teachers are still trying to determine how they should interpret their more facilitating role within the atelier and are looking for matching didactic forms of work. Not all teachers are sufficiently adept at design-based working. Further support and professionalisation of teachers is necessary to improve the quality of the ateliers even further.
The teacher has a great deal of influence on the quality of education.

[7] *It is important to distinguish more clearly between multidisciplinary, interdisciplinary and transdisciplinary collaboration.*

Programmes give substance to working and learning in ateliers in many different ways. We encourage programmes to make their vision of working and learning in ateliers even more explicit and to specify the different types of ateliers further. To make the concept of ateliers more recognisable, the basic elements of an atelier must be correctly applied (see Chapter 1).

Finally, working and learning in ateliers fits the national trend of setting up learning environments at the intersection of learning and practice, creating so-called hybrid learning environments. This allows us to learn from our own experiences as well as from those of other institutions.

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Study Abroad
Destinations

Working and learning in Ateliers

Working and learning in ateliers is a characteristic part of NHL Stenden's Design-Based Education (DBE) concept. An atelier is a learning and working environment that facilitates and provokes active and collaborative learning. Education in an atelier focuses on learning by doing and on learning from experiences.

This publication describes what we want to achieve through working and learning in ateliers. We also discuss differences between ateliers and offer models that can support the design and evaluation of an atelier. Also we discuss the research into aspects of DBE and education in ateliers, such as the effects of the physical space on learning, collaborating in an atelier and the role of the teacher.

Through more than 30 atelier portraits, we show readers the real-life issues being worked on, the collaboration with the work field and researchers, and the added value of the ateliers.

We hope that this publication inspires readers and encourages collaboration.

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