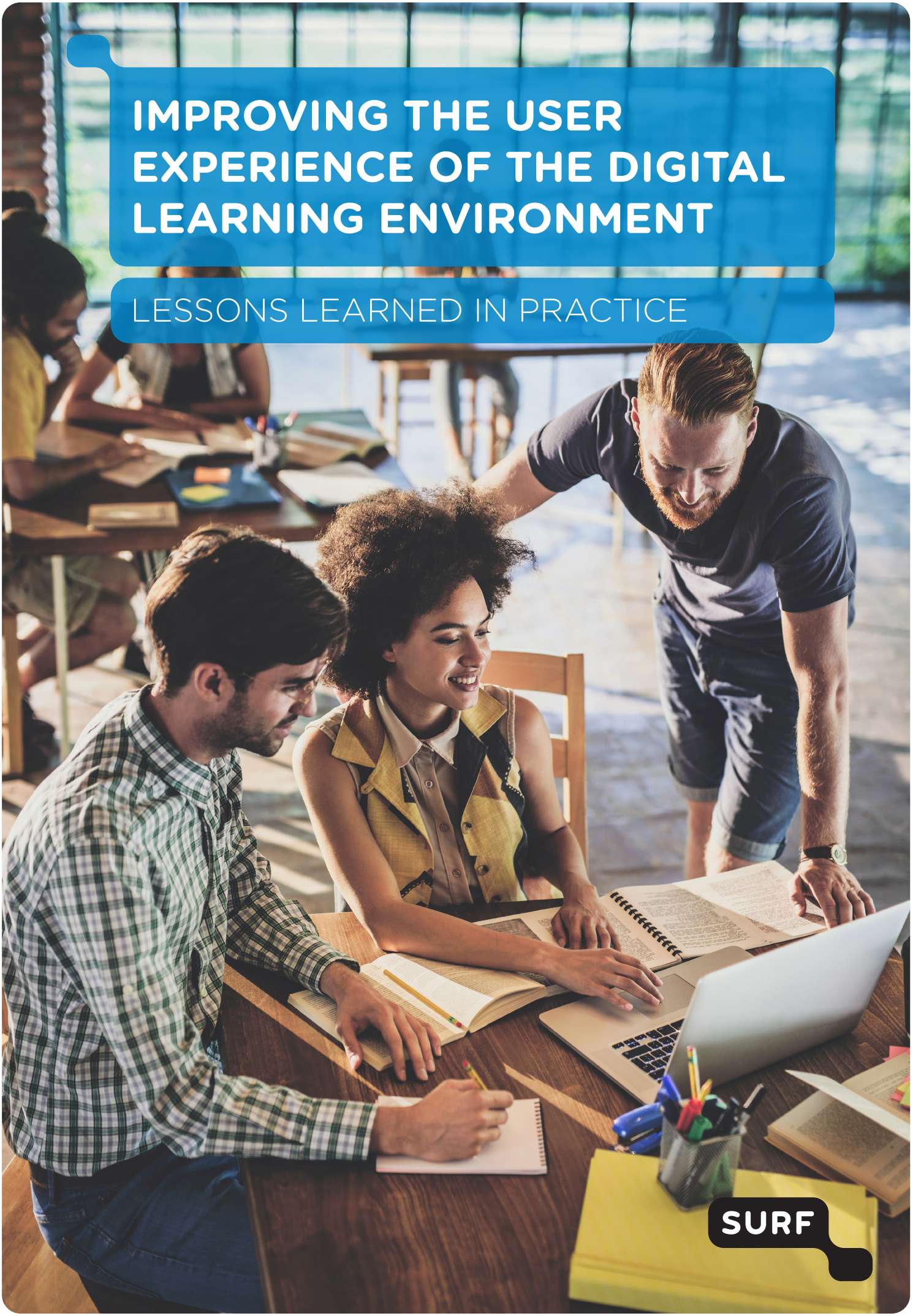
IMPROVING THE USER EXPERIENCE OF THE DIGITAL LEARNING ENVIRONMENT

LESSONS LEARNED IN PRACTICE



SURF

CONTENT

INTRODUCTION

You can't improve the user experience of a digital learning environment overnight. It is a comprehensive process:

- The user experience is about how users generally experience and interact with a composite modular digital learning environment. It is not just about improving applications. It is also about improving the way the applications of the digital learning environment work together.
- The users are students, lecturers and staff of the education institution and externals parties: groups with different wishes and needs.
- Improving the user experience of a digital learning environment is a continuous process that involves many stakeholders.

The *User experience guide for the digital learning environment* was published in 2019. It is a rather conceptual description of what you need to do to improve the user experience of a composite learning environment. This paper tells you how to approach such an improvement in practice. How can you use user feedback to make improvements?

Chapter 1 explains what your institution needs to take into account if you want to improve the user experience of the digital learning environment.

Chapter 2 discusses the lessons learned from institutions that have been working on this for some time. We have asked seven institutions about their approach, how they collect and use their user feedback, and how they organise the governance and control of their digital learning environment.

We have drawn some general conclusions from their lessons learned. The interviews have been converted into good practices with various recommendations. The separate boxes in this document provide tools that may be of use to you to improve the user experience of the digital learning environment. Such improvements are never finished, we invite you to read this paper again from time to time.

The following institutions have contributed to this publication: Avans University of Applied Sciences, Amsterdam University of Applied Sciences, Rotterdam University of Applied Sciences, Inholland University of Applied Sciences, Radboud University, Leiden University and Maastricht University. We would like to thank all the people we interviewed for sharing their insights, the success factors and the ideals that turned out to be more difficult to achieve.

Basic rules for improving the user experience

1. Focus on continuously improving the user experience
Educational insights, technology, functionalities and users' wishes and needs are constantly changing. That is why a digital learning environment is never finished. This means that the applications must be set up in a way that allows further development. It must be possible to update and replace all parts of the learning environment. You can use open standards to make sure that you can always exchange data. You also have to organise the management and control of the digital learning environment in such a way that continuously aims to improve the user experience.

2. User experience is about users' interactions and experiences with the environment
Users' experience of the digital learning environment is very personal and depends on preferences, expectations, previous experiences and other factors. Distinguish between users' attitudes and users' actions – what they actually do in the learning environment. Both can be measured with user surveys. Use these measurements to improve the experience.

3. Involve users in all steps that may lead to improvement
Users can make valuable contributions towards improving the user experience. That is why it is important to involve them in all steps that may lead to a better user experience. Ensure continuous communication and keep users informed of the prioritisation and planning. Users expect to work in a secure and reliable environment, but often look at functionality and information first. By including users in the entire process, you show them which considerations are being made and how important the underlying data and integration are in terms of usability. Also talk about what is not (yet) possible and why.

THE CHALLENGES OF USER EXPERIENCE IMPROVEMENT

Improving the user experience of the digital learning environment is a complex process. There are several reasons for this, which we will explain in this chapter.

The digital learning environment consists of all the applications an institution sets up for education and research. It is a historically grown, complex landscape that consists of all kinds of applications each with their own lifespan, such as student information systems, timetable applications, collaborative environments, learning management systems (LMS) and portals. The digital learning environment also includes various educational applications used in areas such as assessment, feedback and video. The digital learning environment is constantly changing: contracts end, mandatory tenders are triggered, new curricula are introduced, new educational concepts are implemented, didactic approaches are redesigned and so on. Interesting new education and research applications appear regularly. They must have a logical location within the digital learning environment.

The education and research applications within the digital learning environment, which we will refer to simply as applications from now on, are generally provided by various suppliers. This means that each application has its own user interface. Many applications use data from other applications or exchange data with other applications. This can be user data, content or metadata, for example. Some applications are easy to integrate with each other, partly thanks to certain standards for data exchange. For other applications, integration is more difficult to achieve. The relationship between certain applications may therefore not be obvious at first. However, in order to meet the expectations of the user, mutual coorporation is desirable.

What do users expect?

Students and lecturers are the most important users of the digital learning environment. Education developers, support staff, administrators and external parties also use and work on the digital learning environment regularly.

Users expect a coherent system. They want the following:
- Information has to be up to date and easy to find.
- It must be immediately clear which educational and generic applications are available in the learning environment. Examples of this are email and calendar applications.
- Users want to see immediately which applications they have access to.

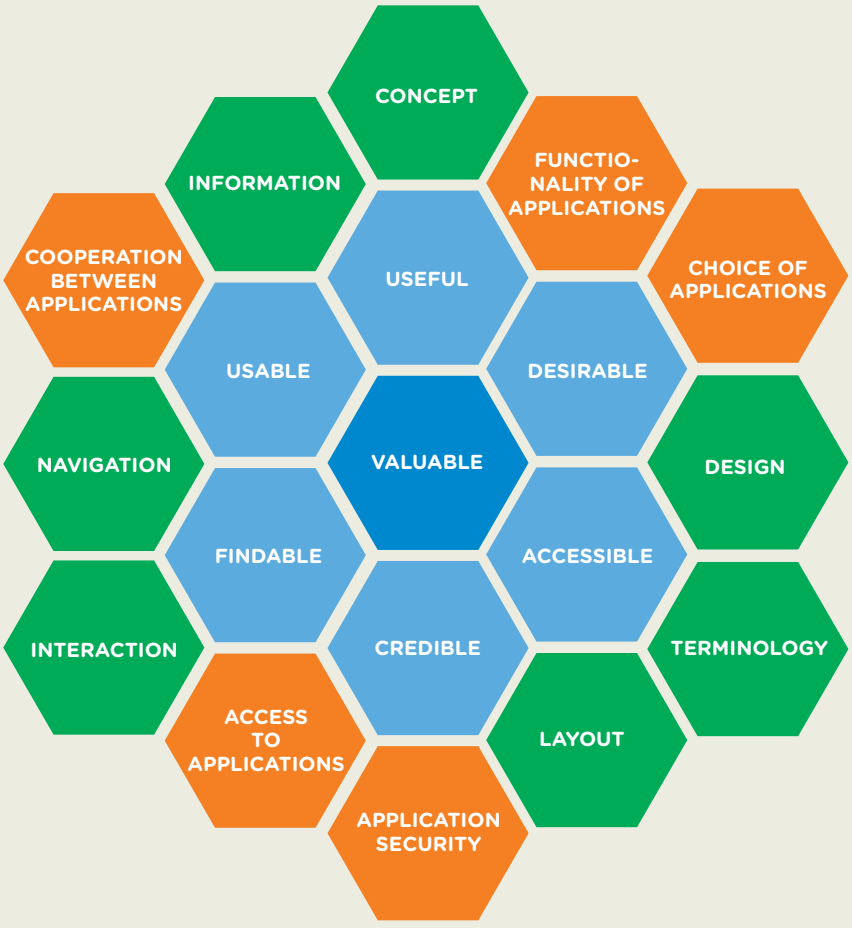
When users find the functionality of the digital learning environment limited, they will enrich their personal learning environment with additional applications. This may be a sign that the digital learning environment is not of sufficient value to the user.

Of course, all users are different. It is perfectly possible that some users perceive the digital learning environment as too extensive (and therefore unclear) while others are finding it too limited. There is no coherence in the user experience. However, the learning environment may not offer lecturers all the functionalities that they need, so they start coming up with their own additions. This may mean that the learning environment is actually becoming less clear to students. That makes it very hard to improve their user experience. It requires strict control of the big picture, which is not easy in a composite modular learning environment.

The honeycomb model

Peter Morville's honeycomb model sets out conditions that determine whether an application is valuable to a user. You can use this model to determine the value of single applications and of the digital learning environment in general.

According to the honeycomb model, an application adds value for users if a number of conditions are met. Each cell in the model reflects one of those conditions. The model allows you to assess changes in the digital learning environment by working your way from the outside to the centre: you go from the orange and green building blocks towards the key question: *"Does the change offer a more valuable experience?"*



Background information: *An explanation of the honeycomb model can be found in the SURF paper User experience guide for the digital learning environment.*

Keeping control of the digital learning environment

The institution is responsible for managing the digital learning environment, not the application vendors. Knowledge about information management, IT and the organisation itself is required. Forging connections requires insight into the technology, but also into the design of one's own applications. That is why the institution must handle the development of the digital learning environment as a whole.

The fortress model

The fortress model allows you to map out the digital learning environment. It enables you to visualise the positioning of various educational and generic applications managed from within or outside the institution. This helps to determine over which components the institution needs to exercise strict control under the applicable laws and regulations.

Background information: *The fortress model is explained on page 10 of the SURF paper A flexible and personal learning environment – a modular functional model.*

However, staying in control is about more than simply forging technical connections. It also means that the institution keeps an eye on how users move through the digital learning environment. In terms of functionalities, just about anything is possible and there are hardly any limitations anymore in terms of performance either. This may tempt us to keep presenting more and better applications to the digital learning environment's users. However, education institutions are becoming more aware that an ever-evolving digital learning environment can also have a significant negative effect on the user experience.

The most pressing question is now how students and lecturers can find their way within the digital learning environment. *Where is the "entrance"? How do users know where to find the information they are looking for? And is it right to ask students to retrieve and combine information from all kinds of different sources themselves if the information does not always match and is sometimes incomplete or partially duplicated?* To stay in control of the digital learning environment you need to look at things from the users' point of view and make improvements based on that approach. Chapter 2 describes how the interviewed institutions approach this.

LESSONS LEARNED IN PRACTICE

We asked seven higher education institutions how an improved user experience is playing a role in the further development of the digital learning environment within their institution. We have learned several lessons from the experiences of Avans University of Applied Sciences, Amsterdam University of Applied Sciences, Rotterdam University of Applied Sciences, Inholland University of Applied Sciences, Radboud University, Leiden University and Maastricht University:

- **Put users first.**
- **Take a multidisciplinary approach.**
- **Make sure that the digital learning environment has an owner.**
- **Involve the users in every stage and show what happens with their feedback.**
- **Opt for an agile methodology for continuous development.**
- **Use open standards.**
- **Focus on good data management.**

This chapter discusses the lessons learned. We also briefly reflect on the differences in the interviewed institutions' approaches. More information on the approach of individual institutions can be found under good practices below in this publication.

Put users first

Many institutions find that there has been too much focus on the applications rather than on the users' needs. This can reduce people's study and work satisfaction. It may even cause students to delay their programme or drop out. Searching for information takes students an unnecessary amount of time, which is frustrating. Employees spend a lot of time answering student questions. With better system information, they would not even be asked these questions.

That is why the interviewed institutions put users at the very centre of the further development of the digital learning environment. They do this by developing detailed student journeys or lecturer journeys based on realistic educational scenarios. In sessions with employees from various departments, students and lecturers have described the bottlenecks in the digital learning environment they encounter. This results in eye-openers. It became clear that students at Rotterdam University of Applied Sciences retrieved their education appointments from many different sources in order to create their own calendar. Their education appointments with regard to the available education, coaching interviews, exams, resits and work placements were communicated to them in a timetable, by email and in Excel documents.

Take a multidisciplinary approach

What may be a logical action for a faculty or study programme can be quite a search for another type of user. For example, departments may record information in a different way, which makes this information unclear to the end user. Processes may also vary from one department to the next. In that case, it is not enough to simply improve the way information is provided. Only when we step into the shoes of those using the information, we realise how important it is to coordinate and standardise information flows.

We can only develop the digital learning environment further based on the users' needs if we adopt a broad approach. When all the stakeholders adopt this approach, the services to students will improve. Inholland University of Applied Sciences says that all the parties involved must learn how to speak the same language in order to achieve this. By this Inholland means that certain departments sometimes work on the digital learning environment from the perspective of their own organisational silo, with little insight into what other departments do and without any interdepartmental cooperation to improve the digital learning environment for the users. It pays to invest in that process, even if it takes time.

Make sure that the digital learning environment has an owner

Governance or control over the digital learning environment is a recurring pain in the interviews. The digital learning environment obviously concerns many people from different disciplines and departments. It is quite often clear who owns the various components, but it is not certain who is actually responsible for the digital learning environment as a whole. It generally takes quite a bit of effort to involve the right people such as managers and coordinators in the decision-making process. They tend to delegate this to their specialists rather than keep an eye on the content themselves and keep up to date on the bigger picture. The latter is necessary in order to make the decisions and to continue to consider the digital learning environment as a greater whole.

The applications which together form the digital learning environment are often managed and owned by various parts of the organisation. The applications facilitate both logistical and educational processes. They produce and use shared information. The matrix from the User experience guide for the digital learning environment (page 14) reflects the wide range of stakeholders in the composite digital learning environment. Of course, this list is not exhaustive.

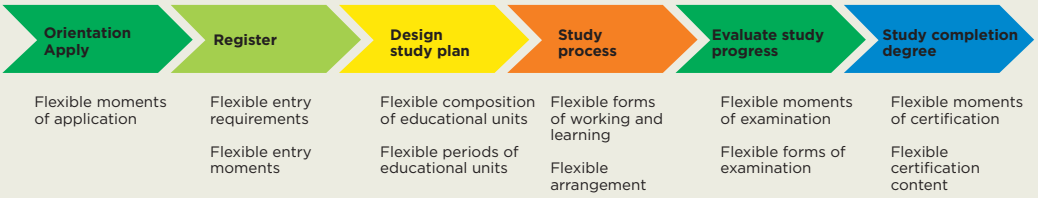
Student journey

One way to put users first is to document or draw what students or lecturers encounter on their journey through the digital learning environment. Insights from this student or lecturer journey are then used as input for improvements.

A student journey makes it clear what students encounter in their studies, and provides information about how students experience this. It is a powerful user experience measurement tool because it also examines students' perceptions.

Personas are used to analyse things in a practical way. In the case of a student journey, these personas are fictitious students. They follow a certain route. They may start by choosing a particular programme and end with a certain qualification, for example.

By zooming in on the various elements of the student journey, you can show how certain education changes affect the applications. For example, an educational restructuring will affect the logistics processes, the information services and the underlying IT applications.



Student journey at Rotterdam University of Applied Sciences

Rotterdam University of Applied Sciences asked its lecturers, operational management office staff and education manager to devise an improvement plan based on student journeys. It then presented the improvement plan to the student board. You can find an example on the next pages.

Background information: *Slooten, van S., Veldhoen, B., Achthoven, W., Rensch, van J. & Ratingen, van B. (2018). Basisboek Customer Journey, Een inleiding in het vakgebied. Groningen/Utrecht: Noordhoff Uitgevers.*

https://www.brightspotstrategy.com/improve-student-experience-higher-education/

A day in the student's life

What information do students need during a school day? Where do they look for information and where can they find it? How well does the information supply currently fit their world? And where is there room for improvement? These are questions that a group of students on December 12, 2019 started working on creating a day trip for a student. The most important insights that came out of this are shown on the right.

Now it's your turn: Let's go!

1. Below you will find the results of this workshop summarized in a daytrip. Is this journey in line with your experience? **Change and complete with post-its** to make it complete.
2. Which **emotions** do you experience during the different events? Draw and describe these as on the example emotion post-its.

Summarized day trip & related emotions

positive experience :)

Get up

NO CLEAR DAILY SCHEDULE

What time and where do I have classes?
What subjects?
Class cancellation?
When can I go home?
Break or no break?
Should I look at hint, schedule or Cumlaude?
In the end I got the changes through the mail/app.

Homework/ DEADLINES OK TO FIND

What homework do I have?
What deadlines today? What should I do first?
I check hint, app, mail and own sheet.
Found in app/mail.

ASSIGNMENT INFO EASY TO FIND

Looking up information about courses and assignments goes well with Cumlaude and manual. The manual can be a bit more concise. I also get information through good communication in the classroom app.

FINDING STUDY MATERIALS/ SLIDES IS DIFFICULT

Where are the slides?
No clear overview of the slides per week, a lot of searching back, things missing, not on your phone.
Found on Cumlaude (takes a long time to pick up on laptop) or mail.

negative experience :(

Ideas

3. Think of **ideas** to improve the described pains/ deficiencies in the information provision on a school day. Draw an arrow to the experience for which the idea was conceived.

A SYSTEM

A system in which everything can be found; the complete schedule, courses + files thereof, mail, numbers, internship etc. instead of a hint with links to 4 different websites.

Insights

The search process of students for information (study material, schedule, etc.) is often difficult (confusing) and takes a long time due to the many steps and different channels.

Whatsapp is an alternative for students to get information because it offers a direct answer to your question.

Starting up your computer is seen as a disadvantage, often students prefer to look at their mobile phone.

QUESTIONS ABOUT HANDING IN ASSIGNMENTS

What are the standards?
When to retake?
Do I already have feedback? Look at Cumlaude, laptop needed, no mail/ message if I already have feedback.
Where to hand in? Submit via n@tschool and mail.

NO GENERAL SCHEDULE

When do we have vacation?
On hint search vacation. Internship dates?
I search in hint but find it in Cumlaude/ handleiding.
I can't find the semesters. When are the exams?
Schedule is late in hint. I want to know in time when there are workshops because of work.

GOOD COMMUNICATION SICK TEACHER

The teacher must communicate well. My teacher has mailed that he was sick, forwarded the files of the lesson and passed on in the classroom app that he was sick. Great!

TOMORROW...

What should I do tomorrow, are there schedule changes? Through hint app not visible so I look in mail and ask it in the group app.

Sleep

ANNUAL SCHEDULE

Daily schedule: add deadlines & course guide. Annual schedule: vacation, exam, periodic schedule, daily schedule.

Source: www.beingadesigner.com

Possible influence of stakeholders on parts of the user experience

TASK	ROLE	Terminology	Design	Format	Interaction	Navigation	Information	Concept	Choice of applications	Functionality of applications	Access to applications	Application security	Interaction between applications
Development of education	Educational expert						●	●					
	Lecturer						●						
	Educational designer				●	●	●		●				
Content	Designer of learning material	●	●	●	●	●	●						
	Editor	●											
Set-up and selection	Lecturers, teaching assistant						●		●				●
	Information architects					●	●	●	●	●	●	●	●
	Software developers			●	●	●	●			●		●	
Support and management	Functional and application management	●									●	●	●
	Operational management	●									●	●	
	Helpdesk	●									●		
Suppliers and external party	Suppliers of applications						●	●	●	●	●	●	
	Consultants	●	●	●	●	●	●	●	●	●	●	●	●
	Software developer, designer			●	●	●	●			●	●	●	
	Publishers of learning materials	●	●	●					●	●			

The left-hand columns describe the tasks and associated roles. The cells in the honeycomb model are shown horizontally (see explanation on page 7). The exact content varies from one institution to the next, but the overview shows the involvement of many people with their own roles. Students are not included in this overview. Institutions are increasingly involving students in the design of the digital learning environment, because students and lecturers are the most important users of the digital learning environment. We also don't see who is ultimately responsible for guaranteeing the user experience or who is the owner in this regard. This is also often the case in practice. Amsterdam University of Applied Sciences has opted to give this role to a product owner. The product owner is the link between the people who set the long-term vision of Amsterdam University of Applied Sciences' digital learning environment and the people who translate this vision into concrete implementation plans.

Involve the users in every stage and show what happens with their feedback

It is important to involve users in every stage of user experience improvement, the interviewees say. Set up student and lecturer panels. Have them test changes to the digital learning environment. Use their feedback to make short-term improvements.

Remember that not all users of the digital learning environment have the same wishes. Maastricht University found that one student may like to see all information together in one app, but another may be just as happy with three different, simple and clear apps. These are two very different options for the department providing the information. In that case, we need to ask ourselves what the best solution is.

The trick is not to immediately implement that one button a student is asking for, Rotterdam University of Applied Sciences says. We need to take the conversation to a different level to make it clear where the student gets stuck when searching for information and what the real requirement is. This will rarely be a missing button. The real problem tends to be an error or obstacle elsewhere in the process.

Student focus does not mean doing everything students ask for. Be open to user suggestions. Indicate what is being done with a particular suggestion, but also tell students why it is not always possible to follow suggestions.

Roadmap

A roadmap describes the planned improvements to the digital learning environment. Publishing a roadmap – on a website for example – is a good way to keep users informed of your progress and obtain immediate feedback on the prioritisation of the planned improvements.

A roadmap is a useful tool for managing users' expectations. *"We are working on this and it is scheduled to become available from the next academic year."* This keeps users involved and takes them seriously.

Opt for an agile methodology for continuous development

The procurement or tendering of large parts of the learning environment is traditionally organised in a project-based way. However, a project-based approach is not suitable for continuous further development. So what is a better way of tackling the user experience in a structured way?

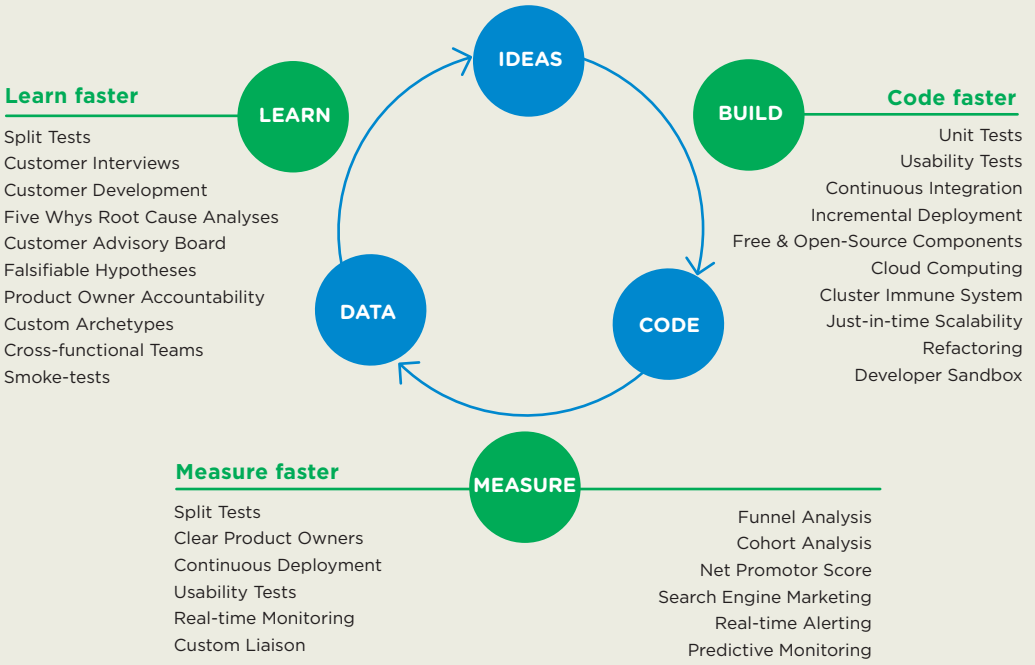
Several institutions drew their inspiration from software development and have switched to an agile method. In software development, it is common practice to break down the further development of a dynamic product like a digital learning environment into short, well-organised iterations of two to a maximum of four weeks. Iterations are stand-alone projects that result in a new release. The delivered product is tested, and the users, customers or client gives feedback. The feedback is then processed in the next sprint. This method reduces the risk of an end product that does not meet the end users' needs.

Scrum is a well-known agile methodology. The underlying philosophy is: *It is better to achieve success in small steps rather than do a lot of work only to see the application fail after implementation.* Scrum teams develop software in short sprints. Sprints always have the same length, for example four weeks. When the team picks up a project, it makes sure that every team member is involved in the scheduling, the distribution of tasks and the identification of the bottlenecks. Scrum is an alternative to the waterfall method, in which a product is designed and created in sequence and is then implemented.

The agile method isn't the only method to incorporate continuous development of the digital learning environment in the organisation. However, according to the interviewed institutions, it is a method that is paying off.

Lean start-up methodology

The Lean start-up methodology is based on a cyclical process: the Build-Measure-Learn cycle. During this feedback loop, the experience of users is constantly measured.



Background information: *http://theleanstartup.com/principles*

Avans University of Applied Sciences is strongly inspired by IT, and its IT projects always focus on student and lecturer journeys. Avans divides the education value chain into five value streams: education planning, development, offering, provision and finally tests and examinations. A DevOps team is dedicated to each value stream. This team of developers is jointly responsible for the development of the value stream. The team consists of a product owner, scrum master, developers, testers and a user experience (UX) designer.
Avans is interested in the area where the student journey and value streams meet and uses or develops software applications for these touchpoints.

Other institutions are adopting the user focus and the agile methodology used by IT organisations. For example, a UX designer worked with students to develop the prototype of the future Leiden University student portal. The actual portal will be created in short sprints, and a UX designer will perform user tests with students during each sprint.

Gain insight into user attitudes and behaviour

How do users deal with the digital learning environment? An obvious method to gaining a better understanding of user attitudes and behaviour is to conduct a user survey. A survey provides a large amount of data. The disadvantage is that everyone will be answering the same questions, making it difficult to zoom in on the personal user experience.

Qualitative research yields less data, but quality information, as it allows you to ask more questions in actual conversations with individual users. Individual interviews are good for researching users' attitude towards the digital learning environment. Emotion often plays a role in how users experience the learning environment. People like being familiar with the applications they are using. Switching to another application is therefore quite a step for some. It can also be useful to go through learning journeys to gain insight into users' attitude.

A UX lab can help to learn more about the users' actual behaviour in the digital learning environment. In a UX lab, users are asked to perform specific tasks in the digital learning environment and their behaviour is analysed, for example by recording their mouse clicks and eye movements or by using Google Analytics. A UX lab is a good setting for an A/B test. A group of users is presented with two variants of a web page. One part of the group receives variant A of the web page, and the other part of the group gets variant B. The test then measures which variant produces the desired behaviour.

You can also use learning analytics to measure behaviour in an educational setting. Study data from educational applications is then converted into valuable knowledge. For example, you can use learning analytics to examine whether the user experience of the learning environment is making it more difficult for users to complete their learning paths.

Background information: *https://www.wortell.nl/blogs/welke-user-experience-onderzoeken-zijn-er-en-wanneer-kun-je-deze-het-beste-uitvoeren*

Find more information about learning analytics on www.surf.nl/en/node/71

Use open standards

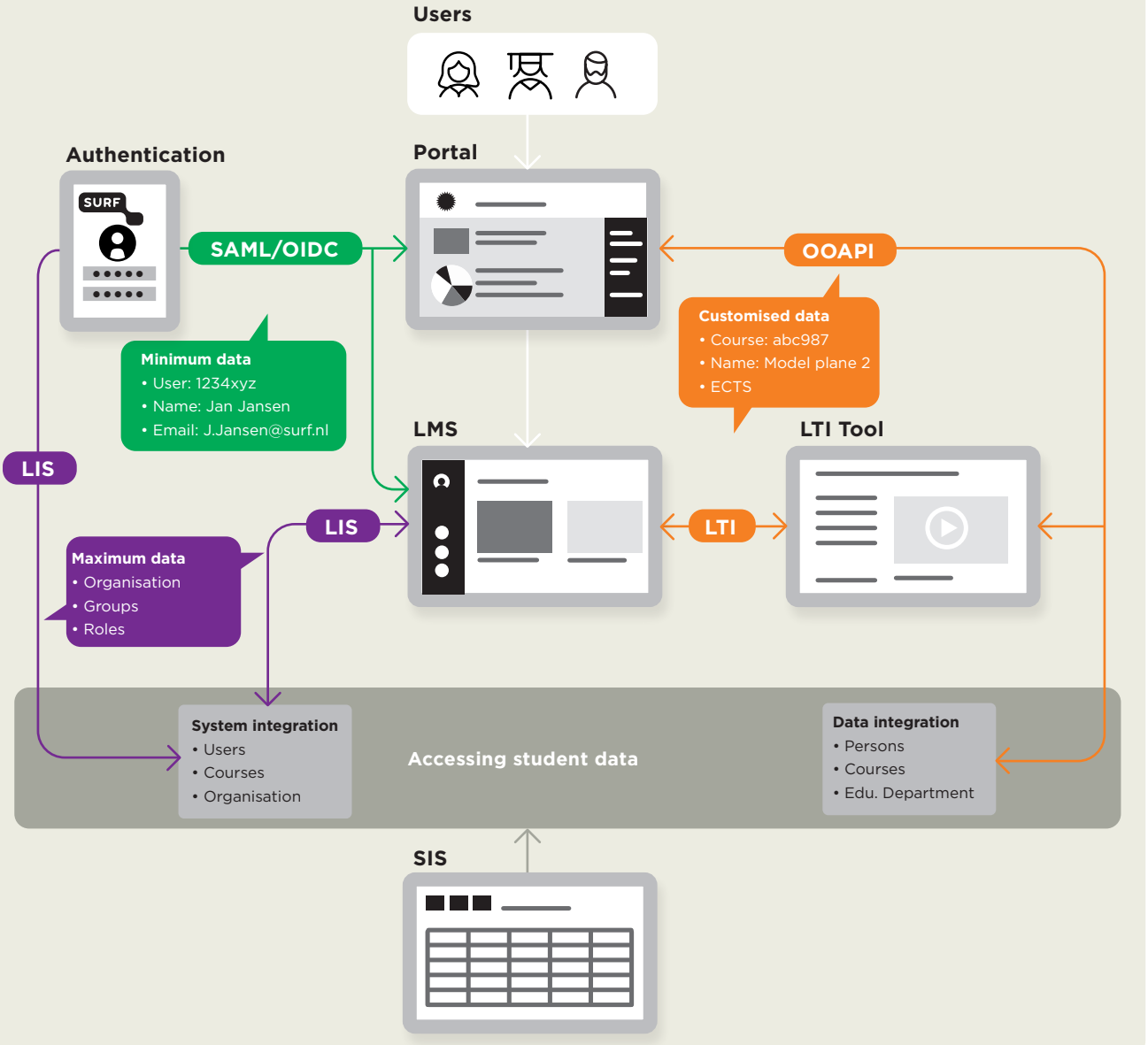
A good user experience of the digital learning environment depends on the technical integration of the applications. For example, if a new education application can use data from the student information system (SIS), its users will not have to enter their names and groups manually in the application.

Institutions must (re)develop the integration between the applications themselves. SURF recommends and encourages the use of a number of open standards for data exchange: LTI, OOAPI, SAML/OIDC and LIS. Together, they cover all integrations that can occur within the digital learning environment. These standards have a major impact on the user experience. For example, the LTI standard makes it possible to visually integrate applications with each other.

Focus on good data management

Besides data exchange standards, content delivery standards are also very important to improve the user experience. Good data management is the basis for developments that personalise education and make it more flexible. In order to offer personalised timetables in a student portal, timetable data must be provided in the same way. In order to show the study progress in a personal dashboard, all study results must be accessed in the same way. Institutions such as Inholland University of Applied Sciences and Leiden University are committed to standardising data throughout their organisation.

The position of standards visualized in the architecture of the digital learning environment



However, the term ‘standardisation’ does not immediately trigger a great deal of enthusiasm and understanding within an institution. Showing what students encounter when each department and faculty completes the application fields in their own way may inspire people to support the standardisation. When people see how these separate approaches can really be disastrous to students, everyone will understand the need for standardisation.
It is important that it is not seen as something imposed from above, but as something that benefits the organization of the study of students. According to the interviewees, the biggest challenge in this regard is to keep the new method alive.

It may well be the case that an individual faculty or study programme has already organised everything perfectly and therefore does not immediately see the importance of making changes. It is therefore important to ensure that communication takes place at the right level: show that other interests are at play to create a better bigger picture. The new method may not directly benefit the faculty’s own students and staff, but it may be in the interests of other students and the institution as a whole.

WHAT STANDS OUT?

Different views

The similarities in the interviewed institutions' approaches are striking, but of course the institutions don't always make the same choices and don't always agree with each other. For example, several institutions are working on a student portal to make access to the digital learning environment unique and personal, while Radboud University is now thinking that a portal may no longer be necessary in addition to the learning management system. Another striking difference: it is Inholland University of Applied Sciences' philosophy that an institution should build and manage as few own applications as possible, but Avans University of Applied Sciences sees own applications as unavoidable if the main focus is the user experience.

Many differences are connected to the level at which the user experience is being altered. For example, Rotterdam University of Applied Sciences stated that the term 'user experience' refers to the way an application works, and that institutions should really be focusing on the online service experience. It also insists on the importance of a programme-based approach in order to oversee all aspects of the online services and tackle them in sub-projects.

Leiden University sees the further development of the digital learning environment as part of a broader programme: the Harmonisation of Educational Logistics. For Amsterdam University of Applied Sciences and Radboud University, the transition to a (different) learning management system triggered the improvement of the user experience in the digital learning environment. At Maastricht University, this transition plays a minor role and the organisation has focused on its work with students to determine how the digital learning environment can be improved.

It's a marathon, not a sprint

The similarities between the interviewed institutions are far greater than the differences. All consulted institutions emphasise the importance of collaboration to improve the user experience. The digital learning environment is not an IT project, but rather an educational project to which many parties are contributing. The next steps can only be taken if enough people have the same goal in mind. This goal is to improve the user experience by removing obstacles in order to achieve more flexible study progress and a more enjoyable study programme. If all those involved continue to see this clearly, it is easier to make decisions and to ward off any resistance. The importance of good communication is therefore evident. The interviewees have also said that it is a matter of patience, of taking two steps forward and one step back at times. Improving the user experience of the digital learning environment is a marathon, not a sprint.

In the section on good practices on the following pages, the interviewees tell us how they approached it – and how things turned out.

GOOD PRACTICES

USER EXPERIENCE

RADBOUD UNIVERSITY: TAKE YOUR USERS SERIOUSLY

Jos in den Bosch, Head of Educational Innovation with IT at Radboud University:

"Initially we needed to improve the user experience for legal reasons: the contract with our Blackboard learning management system was coming to an end and could not be renewed. We had to issue an European tender. Switching to another application has a huge impact. You only want to put an organisation through that if it delivers significant improvements. For us, this was only the case if the user experience were to improve considerably.

In the run-up to the project, I interviewed many lecturers and organised workshops with students and lecturers to discuss the use of Blackboard. This clearly showed that lecturers were using Blackboard as a document storage system.
The application's functionalities are not bad, but these were hardly used because lecturers did not understand how they worked. The handful of lecturers who were enthusiastic about Blackboard had invested a lot of their own time to familiarise themselves with the application.

After raising these issues, we set a goal. What position and role did we want the learning management system to have in our organisation? Lecturers were the key to achieving this aim. We can take steps forward when we have an overview of what lecturers want and we can offer it in such a way that they will use it.

User experience accounted for around 65% of the tender's total score. The price was only 20%. We had a few discussions about this with the Board. We asked all the parties who registered to deliver a test environment that met our conditions. We tested the user experience of dozens of lecturers and students as they tried all the applications. They went through a large number of test scenarios in all applications in a random order. This gave us a score of the application vendors. The applications were not hugely different in terms of user experience. Even Blackboard achieved quite a high score, as people were already familiar with that. The applications were also not very different in terms of functionality. In the end, the price was the deciding factor, and we chose Brightspace.

The learning management system is a place for education implementation, a student information system (SIS) for education administration. Both systems reach the students via a student portal. They consume information there and not much else. In my opinion, the time of portals is behind us. Students find it much quicker to type in B and R in the address bar of their browser to log into Brightspace directly.

Success factors
We focused on support. We had 70 people in the field, sitting at the lecturers' desks to help them. Students don't need this. If your application is truly user-friendly, students will be able to use it. That's why they were so heavily involved in the test phase.

With each vendor update, we discuss what we need to communicate to the end users with the key users. These key users are representatives from all faculties. What will it affect, who needs to be informed, and how do we need to update the training courses and manuals? There is an update almost every month, and sometimes these updates bring about major changes. Some lecturers like improvements, while others think: "Hey, where did that button go?"

At first, we did not activate all the functionalities to prevent lecturers from being overwhelmed and not seeing the wood for the trees. Instead, we occasionally enabled new functionalities in consultation with the key users. We are not deciding what is good for them, as we always consult the education division.
For example, after the coronavirus pandemic hit, there was a need for a virtual classroom in Brightspace. It is widely used now.

More difficult to realise
I would like the lecturers to include all the digital features in the design of their education. I wanted to focus on that immediately as we implemented the new learning management system, but we quickly had to change our minds. It was an error of judgement. The lecturers indicated that they preferred to get to know the new application first before being asked to use it in an optimal way. That's why we have a new project coming up: "Get more out of Brightspace".

We can see that the different functionalities are already being used far more often than before. The coronavirus pandemic is also driving this forward. It forces the faculties to be more innovative."

Recommendations by Jos in den Bosch:
- Take your users seriously. The education is leading the way, not the functionalities.
- Create different education scenarios to test the user experience and present them to the users. This will lead to valuable input.
- The digital learning environment is primarily about education. Improving the user experience is therefore an educational project and not an IT project.
- Set the bar high, but also dare to lower it temporarily.

USER EXPERIENCE

ROTTERDAM UNIVERSITY OF APPLIED SCIENCES: DESIGN A SERVICE EXPERIENCE RATHER THAN A PRODUCT

Tim Fleumer, Experience Strategist at Rotterdam University of Applied Sciences and Najang Klootwijk, Programme Manager at Rotterdam University of Applied Sciences:

"Students come to the institution to develop, learn and ultimately get a degree. In order to study successfully, they need to organise their studies. This should take as little effort as possible so they can focus fully on their studies, but that isn't always easy. For example, we distribute a lot of study information in various applications and then we rely on the students to find this information. The applications aren't always well aligned: sometimes they offer the same information in a different way and sometimes the information is there, but the students can't find it. This means that students can miss out on certain information and may even suffer a delay in their studies as a result. That's why four years ago, we started the Studienet programme for better student support in collaboration with the organisation. The programme started as an IT project for linking data, but it became increasingly clear that this is actually an organisational issue. In the programme, we think about which long-term interventions from the university of applied sciences are necessary to improve the user experience. These improvements can be process-based, such as the development of a personal online environment (My HR), but they can also be about raising awareness among employees. For example, we show that a student who has a question had to conjure up information from many different sources. We organise sessions in which we introduce other ways of working and we adapt processes. The ultimate goal is to strive for a higher level of service, because we know that this will improve the user experience and may have a positive effect on successful learning.

'From within the organisation there is a great deal of motivation, because it enables everyone to just do their work.'

We work with pilot groups, institutions that have already progressed a bit more in their processes or that have so much affinity with this subject that they are happy to experiment with us. We set up experiments with the pilot groups, with the help of the Studienet team's expertise. We continue whatever works. For example, we recently developed an online chat. During the coronavirus crisis, students seemed to be having difficulties finding the online student front desk. They addressed their questions to the student coaches on a massive scale, which put a far higher workload on them. The online chat now functions as a virtual front desk office. Students experience it as a great service and the organisation itself was very motivated to set this up as it enabled everyone to focus on their own jobs.

Another example of service improvement is gradually merging different timetables. We do this together with the study programmes and our IT colleagues, as this is both an organisational and a technical issue. When you take a close look, some students have to consult up to 13 different sources to access all the applicable institution arrangements. If you want to merge that, for example, you will encounter time grids that do not match. We try to resolve such obstacles in a way that other institutions can also adopt later. At the same time, we are making arrangements with those setting the timetables on their use of certain fields in the timetable application to make sure that the timetable information appears correctly in My HR. If we show what unpleasant experiences students go through if we don't make these arrangements, everyone agrees that these arrangements are necessary.

Success factors

Our methodology is agile. We dare to experiment and we – even the Board of Directors – accept that experiments sometimes fail. This doesn't mean the organisation fails. It means that you are learning and you are choosing a different direction. This doesn't have to be resolved within a year – we enter into a commitment for a longer period.

We always have our online student services tested by students to make sure we give our students the best possible support to organise their learning. What obstacles do they encounter on their journey? What interactions do they have with HR (touchpoints) and how do they feel after such interactions? Based on this, we are always looking to improve both the online landscape and the organisation. Various areas of expertise are represented in the core team. This expertise is based on experience, organisation and IT. You need to organise the core team as a kind of joint venture.

We are working to gradually achieve more consistency in the online services: what's on the

My HR website is exactly the same as the content in the app. This increases reliability and mobility. It helps students to gain an overview of their studies and to take immediate action, for example by registering for a test.

When getting feedback, it is important to identify users' deeper needs and drivers. We do this by using design methods and techniques such as Service Design. For example, why do students want to compare their marks with others, or why do students want to be able to adjust their profile photo themselves? We also look at the context. When does a student want to know certain information? Which steps have already been taken, and which steps are next? What do students ultimately want to achieve? If you keep talking for longer, you sometimes notice other errors in the process. Rather than immediately implement the functionality or button the student is asking for, you should look at whether this would help to organise the learning process. If that isn't the case, you should also explain this. And that's not easy. There may be the odd student who doesn't understand, but most students will if you take the time to explain.

We test each release with students. This shows students that things change after they have said something. This is highly appreciated. Taking students seriously is an essential part of our process. That's also why the staff is gaining more and more confidence in it: we let (the needs of) their students lead the way in the choices that we make. They feel that we are at their service, not the other way around. And that's also how we see things.

More difficult to realise

Roles and responsibilities have been a challenge so far. Managers tend to put the experts in charge during our sessions. We do need them, but the layer above them also needs to understand the bigger picture and manage things in the right direction. Suppose a manager gives six different people the responsibility to fill the timetables and the manager assesses each one only in terms of the part they are responsible for. In that case, all those timetables together could still make up a very inconvenient overall schedule for students. As a manager, you need to make sure that those creating the timetables talk to each other. Everyone needs to contribute in this regard.

In the beginning, we thought that it would be enough to organise workshops to ask students about the obstacles they had encountered, but this still doesn't mean that a team will automatically start to resolve these issues. This requires the manager's attention and guidance. That's something we have learned in practice. A particular session can cause a huge burst of energy, but if the way of working doesn't change, all this energy will collapse. Some teams do take things on board more easily than others.

The next challenge is to make sure the organisation is invested in the programme, as the programme is finite. The end is undefined. That is also part of being agile. We will stop when the result is stable enough to develop. This also requires new roles, such as an experience architect, and the associated criteria. We are still looking into this."

Recommendations by Tim Fleumer and Najang Klootwijk:

- Don't focus on functionalities in an online environment. It is all about the service you ultimately want to provide. Emphasise the question: "How do the online touchpoints help you with (the organisation of) your learning?" If you do that, you will suddenly have another type of conversation with students and you will find out where they get stuck.
- Work with releases. A release with improvements takes place every two to three months in our online environment. This means you are always visibly working to improve the online service. Students understand all too well that not everything can be resolved in one go. They find updates absolutely normal.
- It is important to close the loop. When students report something, we always respond. This contributes to the service experience and shows students they are listened to. We also explain why it is not always possible to do what they want.
- You provide service as an organisation. Our joint focus on services to improve the student experience is a continuous process.
- Ask students how they experience any direct or indirect interaction with the university of applied sciences. Record this in a student journey. This will clearly show what you need to work on. It gives students a voice in the development of online services. The student's voice is seen as the starting point for improving online services.

USER EXPERIENCE

MAASTRICHT UNIVERSITY: MAKE SURE YOU KNOW WHAT IS MOST VALUABLE TO STUDENTS

Charles Bollen, Digital Learning Environment Coordinator at Maastricht University:

"In February 2020, we placed jars of Nivea all over the university library. The campaign was designed to bring about cultural change. Nivea is short for the Dutch motto "Niet Invullen Voor Een Ander", which means we should never fill in what anyone else is thinking or feeling. We tend to think we know what the customer wants, and we assume we understand without asking any further questions in our conversations. The image of a Nivea jar stayed with people far longer than a written note.

Success factors

Maastricht University is constantly improving the user experience. Our digital learning environment was fragmented. We got a lot of complaints from students who didn't know where to get all their bits of information. Four years ago, we set up a project to create a student portal: a one-stop shop for all relevant student information. An external agency worked with the students to document the entire student journey. We also want to develop the lecturer journey in the future, with a variant for tutors. Tutors play an important role in Maastricht University's education model.

We regularly consult with the faculty coordinators of the various group systems, such as the Canvas learning management system, the TestVision digital assessment system and the Mediasite video system. This means that we are in constant contact with all customer groups. We meet with the digital learning environment coordinators every week. This allows us to exchange information easily and in an informal way, and also means that the key users talk to each other a lot, which wasn't the case before. Thanks to this human scale, people are informed more quickly and the functionality becomes consistent more quickly.

'we have more informal contact with the students. This way we learn a lot about their wishes.'

Maastricht University employs four students who are the foundation of the wider student project team dedicated to defending student interests. They discontinue their studies temporarily so that they can be involved in the development of student services at all times. They contribute to all projects, and it works very well. The university library also has an increasing number of student employees. We have more informal contact with students, and we learn a lot about their wishes.

Last summer we transitioned from the Blackboard learning management system to Canvas. We hired 32 students to help lecturers adopt the new system, causing some funny, unintentional effects. Initially, there was some resistance to the idea that students would be supporting and instructing lecturers on how to organise their education, but in practice everyone was satisfied. I regularly receive emails from lecturers complimenting the student assistants on their clear explanations.

More difficult to realise

The difficulty with the student journey is that it is based on a sample, which makes it hard to extrapolate to an entire student population. We have noticed this in the further development of the portal: the opinion of large groups of students is sometimes at odds with the opinion of some of the student project team. Some students would like one mobile application for all student information, while others prefer it when four apps complement each other to create the bigger picture together. Those are two very different approaches for us. So which group should we listen to?

The students are very satisfied with the student portal, because they find everything that is relevant to them in one place. However, it is quite difficult to manage because we need to connect applications with each other. All these connections and the applications layers make it very difficult to diagnose problems in case of an incident. There are disadvantages to developing your own portal in-house, but if your foundation is an institution-specific student journey, you can hardly do otherwise.

Our contact with lecturers can also be difficult because of the high workload. If we ask the lecturers whether they can help us assess the user experience of the learning environment or test some innovative learning scenarios, we tend to get a response from the same group of IT-savvy innovators. This puts us at risk of not sufficiently meeting the wishes and needs of all lecturers.

Maastricht University's biggest success is that we are talking with the students more, which tends to lead

to a better-quality user experience. We know better what students' priorities are and what really adds value."

'UM's greatest success is that we talk more to students and that this roughly leads to an improvement in the quality of the user experience.'

Recommendations by Charles Bollen:

- Involve the students and faculty coordinators in all aspects of the selection process. Prioritise based on their feedback. Don't let your priorities depend on the technical people, as they will often choose the challenge that is the most interesting in a technical sense.
- Use a dedicated student project team that contributes to all projects.
- A fascinating user experience course has taught me how to collect information from users. For example, ask a student who is leaving the pub after a few too many drinks to try an application and invite the student to talk about what they are experiencing at every step. I don't advocate getting students drunk, but if they are already anyway, it is an effective interviewing technique. The broader approach is to be creative in collecting feedback.

USER EXPERIENCE

AMSTERDAM UNIVERSITY OF APPLIED SCIENCES: DECENTRALISE RESPONSIBILITY FOR THE DIGITAL LEARNING ENVIRONMENT

Aart Schouten, Digital Learning Environment Product Owner at Amsterdam University of Applied Sciences, and Pieter van Langen, Information Manager at Amsterdam University of Applied Sciences:

"We come from a different situation than most education institutions. Our first step to improve the user experience was a programme for tendering and implementing a learning management system to replace our SharePoint environment. We also included all kinds of other functionalities, such as an e-portfolio, an education portal and a maintenance backlog in terms of educational logistics. We are still working on the latter two in stand-alone projects. The user experience of the digital learning environment is often seen as its user-friendliness, but in our case the functions were the first reason to start working on the digital learning environment. SharePoint lacked specific functionalities for education, such as the easy deployment of a discussion forum and the easy creation of quiz questions.

Brightspace has now been in use for a year or two, depending on the study programme. We are constantly working on its further development. We are often asked to link tools to Brightspace, often on a smaller scale. We have recently set up a separate demo environment that almost everyone can easily access to try out all the functionalities and connect LTI tools.

Success factors

Decentralised responsibility for our learning environment is a success factor. The basis is transparency and collaboration. The people who manage the learning environment on a daily basis are given the opportunity to discuss any new developments. This stops them from getting the feeling that everything is decided centrally without them having a say. The challenge of this method is to find the right compromises.

'Decentralised responsibility for our digital learning environment is a success factor. The basis is transparency and collaboration'.

Amsterdam University of Applied Sciences is a large organisation. It has seven faculties and some small departments as well. Together, they are the users of the digital learning environment. A product team is at the heart of our IT department. It has central functional administrators and people who are working on making the connections. The central managers and the most senior functional managers of the faculties make up a working group called the Change Advisory Board or CAB. They prepare changes.

We also have a Digital Learning Environment Board. Each faculty sends a formal delegate to this board. This must be someone who has a broad understanding of what the faculty's education needs and who has a mandate to discuss this on the Digital Learning Environment Board. The Product Owner, currently Aart, is also part of the Digital Learning Environment Board to ensure a connection with the product team. The Digital Learning Environment Board also includes an Operations Director. The Digital Learning Environment Board focuses on the long-term strategic perspective: what do we think is important, what do we focus on, and who has the mandate to take what action? The Change Advisory Board translates its wishes into concrete scenarios, which are then submitted back to the Digital Learning Environment Board. After the Digital Learning Environment Board makes its choices, the change is developed further, tested and put into production. The Digital Learning Environment Board meets every month, while the Change Advisory Board meets every week.

We find out pretty quickly when something isn't working well. There is a place where that conversation can be held, with a budget to do something about it and a mandate to make choices and to replace software if necessary. One point to consider is that the Digital Learning Environment Board must consist of the right people, because their representation is essential to uncover users' wishes and needs. This isn't a problem at the moment, but it is an inherent weakness.

More difficult to realise

The previous version of our Digital Learning Environment Board included students. That didn't work out. The conversations included too much jargon and were not in line with their experience. This made it difficult to have a meaningful conversation with the students and to arrive at a well-founded decision. The students also recognised this and stopped coming, because they

were unable to follow the conversation or contribute to it. That's why the representation of the members of the Digital Learning Environment Board is so essential: they need to know exactly what is going on with the users of their faculty. We also try to perform end user evaluations every so often. If something specific emerges, we organise sounding board groups with students. The contract with the supplier of the learning management system includes a clause that says that if the evaluation shows that the user experience is going down too quickly rather than going up, we may terminate the contract.

It is difficult to accelerate due to a lack of available manpower. There is a mismatch between what education needs and the time it takes to make certain wishes come true once those wishes have been communicated. Fortunately, the importance of a digital learning environment has been magnified by the coronavirus pandemic.

We want to give students a good understanding of their study path with a study dashboard. However, this is quite difficult because you first need to sort out the information management. Data hygiene is a challenge. Various data records are not uniform enough for us to turn them into a conclusive information cycle."

Recommendations by Aart Schouten and Pieter van Langen:

- Organise joint ownership of the digital learning environment.
- Think about data in advance: what is where and what can you give back to students or lecturers?
- Be transparent about what you can and cannot do and what you are working on. Nothing is more annoying than giving feedback and never seeing that anything is being done about it.
  Transparency also means an honest response: "That won't be possible."
- Organise good support close to the lecturers.
  Help them to get the most out of the learning environment and to have conversations with ICTO employees, as they often result in the most valuable feedback. This gives you a sense of where the problems lie: missing functionality, clumsy navigation or a poor education programme set-up.

USER EXPERIENCE

INHOLLAND UNIVERSITY OF APPLIED SCIENCES: MAKE SURE YOU SPEAK EACH OTHER'S LANGUAGE FIRST

Ton Gloudemans, Information Manager at Inholland University of Applied Sciences, and Derk Riesthuis, IT Project Manager at Inholland University of Applied Sciences:

"Our digital learning environment kept becoming more diverse and diffuse, and the access to that environment became unclear. Separate islands emerged. It was assessed where each subject should go, but there was no clear vision of the bigger picture. This led to the question: "Where exactly is Inholland's digital learning and working environment?"

The information department drew up a paper that outlined an alternative scenario and presented it to the directors of our different areas. At the time the department was still separate from IT, but we merged five years ago. Initially, we didn't speak each other's language at all. There were two parallel tracks that didn't touch, and that made it difficult for us to make decisions. Some organisational changes were required first before we could actually set to work. The digital learning environment also involves the intranet, which didn't have a clear owner at the time. We had a lot of discussions about this with the Communications department. In the end, it took three years before we effectively took action, with an external party helping us to reach a joint approach in our large organisation. You try to bring together and organise all the digital resources you present to your users. Ownership is an important topic in that regard. What is there and who is handling what? Where things aren't right, that must be discussed first before any other steps are taken. That makes it a tough and lengthy process.

We came to the conclusion that we needed a student portal, a personal learning environment where all students can find the information that is relevant to their personal situation at that time. There was also a technical reason to take action: the intranet was ready to collapse. We issued a tender for the portal, and that's when we really got started with the project.

We set up a dedicated environment ourselves for a small study programme with about 200 students to see which data processing processes we would encounter to offer a flexible, personalised learning environment. This showed us that we can build what we want, and the challenge lies in the organisation of the information. This requires intensive involvement of the users, who need to deliver content: services, training, project groups and so on. Now that we are working together on the further development of the digital learning and working environment of the entire institution, we continue to develop the same things, but things are easier this time around because we have done them before. We are now trying to find the common denominator for departments and faculties, particularly in terms of uniform content delivery. For a university of applied sciences with 72 study programmes, the main question is and remains: "What do we need to do together to make us stronger, and at what point does a specific professional context require a separate approach?"

Our methodology consists of three steps. The first step is the proper organisation of all the functionalities in our digital learning and working environment. The second step is to ensure that all the organisation's content is made available in the right way. We are currently in that process. The third step is to improve data integrations to ensure better communication between the components and the use of more personal information on the portal.

The portal is never finished. It will evolve along with the entire digital landscape, and has been set up in such a way that we can keep pace with new developments.

'The user is at the heart of further development. That awareness is beginning to sink in'.

Success factors

More and more people are realising that the user is central to further development. In the past our work was driven by the organisational structures; now it is driven by demand. We have set up a project stream for the student portal, which is divided into focus areas. Someone in the dedicated project team is responsible for each stream. One project stream is about adoption. This includes the responsibility to promote our intranet in the organisation, but also to make sure people know how to use the intranet and new functionality.

During the preliminary phase, we examined what is going on within the organisation. Where is the demand? We have also appointed some personae.

What type of roles do we have in the organisation? What do they want? The project tested this with user panels that consisted mainly of students, as they are our main target group.

We communicate far more than we used to, keeping everyone informed and giving them the opportunity to provide feedback at all times. We recently had an audit about the operation of the steering group. We do not seem to need much guidance in terms of content, because we constantly receive user feedback. Communication never used to be a priority, but we have a close connection with the communication department now. They are now the owner of the student portal. We also manage to see the bigger picture rather than all the separate parts. Multidisciplinary work takes a lot of time, but it also has better results.

Our philosophy is to have as little in-house technical management as possible. Setting something up in-house is not too difficult, but the maintenance and updates take a huge amount of effort. That's why we chose a standard application for the portal. The tool we have chosen is a great success because it is so accessible to users.

More difficult to realise

It was difficult to find common ground during the preliminary phase. People conceived and delivered things from their own organisational silos, and it took a long time for us to move from the talking stage to the action stage.

We have now defined product owners and roles, but we are coming from a situation of too little governance. We are still not at a stage where we can break down the project structure, because we still need the owners to take control."

Recommendations by Ton Gloudemans and Derk Riesthuis:

- Don't give up after setbacks. (There were times when I thought: "OK, if it doesn't happen, then so be it.")
- Don't build things yourself. Find a good vendor. Go for the in-house option only if this is strictly necessary.
- Take control of the digital learning environment as soon as possible and make sure that the roles stay alive.

USER EXPERIENCE

AVANS UNIVERSITY OF APPLIED SCIENCES: DOCUMENT THE EDUCATION VALUE CHAIN

Gerlan Verlouw, Solution Architect at Avans University of Applied Sciences:

"One of the focal points of Avans' ambitions for 2020-2025 is to personalise education and as such make it more flexible. To do this, you need integrated processes and supporting applications. Avans has therefore been reviewing the entire IT architecture for the past 18 months.

Success factors

The architecture supports the education process. We used to say: "We have a problem. Let's buy an application." The organisation was then set up according to the application. Now we approach things the other way around. We ask ourselves: "What does the end user need? What does the education need?" Based on this, we then set up our IT. This means that we approach things as part of the architecture with an integral view, not just looking at the education process, but also at the legal aspects and policy, at privacy and security. We use existing applications as much as possible, but if they don't give us what we need, we build the applications ourselves.

Our approach has two perspectives: one from the outside in and one from the inside out. First and foremost, we always aim to base our IT projects on student and lecturer journeys. We map out the student journey from the first introductory session until the time the student has left the institution.

'We map out the student's journey from the first moment of orientation until the moment he has left university.'

The second angle, from the inside out, is about the way Avans wants to provide its education. To this end, we have mapped out the education value chain, the flow of education throughout the organisation. We call this Value4Education. This flow consists of education planning, development, offering, provision and, ultimately, tests and examinations. The flow takes place across all the applications, which together make up the digital learning environment. We use an enterprise service bus (ESB), an underlying platform that establishes connections in order to offer the apps in an integrated way. We do this to support the process-based side of the flow as effectively as possible. We previously used the Blackboard learning management system for the "education provision" value stream. Of all our 22 academies, three have now switched to Brightspace. The rest will follow in the course of this academic year.

Each education value stream has a DevOps team: a product owner, scrum master, developers, testers and a UX designer. Each team is responsible for optimising the value stream for the users. The product owners are education experts, preferably with an IT background and an understanding of agile methodology. Touchpoints emerge where the two perspectives meet. We develop software applications around those touchpoints, or we use existing applications with usability at the centre.

We use the Mendix development tool for the students' front-end applications. Based on Mendix, we build our own applications with data from the core applications, such as the student information system. We can adapt the appearance and user experience to our own wishes and house style. It is important to shape the basic processes and user experience of the digital learning environment itself, but we will not build any functionalities that are already in core applications such as Brightspace. We have built an app that contains all information that is relevant to our students and needs to handle 80% of student questions: Avans One.

Software development is similar to the development of education content. For Avans' part-time academy, our "test academy", education modules are developed according to a fixed structure and supported by tools that make this possible. AvansStudyPath, our education catalogue, has just gone live. This also includes an education development platform: AvansEduPlatform. Modules are developed according to the education model. When they are final, they are automatically added to the education catalogue, where students can register for certain modules. We are now looking at how we can implement this further in the organisation. Structured modules add value for the user and the quality of education. They are more efficient and therefore cheaper.

More difficult to realise

The comparison with IT organisations is a sensitive subject. Some lecturers strongly disagree with the idea that education development is not that different from software development. However, if there are 60 study programmes that offer the subject business administration 10 times, surely it's best to use the same content for this in principle? Of course, some

things may need to be added or removed sometimes, but the foundation is the same.

It is difficult to make the organisation work in an agile way and think in processes, but we have already achieved a lot in 18 months. We need to make sure the organisation is on board with the new way of thinking. In any case, students can now contribute. They are being listened to in a much better way, because our thinking process now starts with the end user in mind and we then work our way inwards from the outside."

Recommendations by Gerlan Verlouw:

- Learn from organisational models that are being applied outside of education. One example is IT4IT, the global standard for large IT organisations. The underlying logistics of education are very similar. The flow is the same. We talk to lecturers for the specialist applications we need to provide the education.
- Avans uses a feedback button in the applications we have built ourselves. Students can use this button to share ideas. They can also rate other people's ideas. This allows us to measure the need for certain ideas.

USER EXPERIENCE

LEIDEN UNIVERSITY: DELIVER WHAT STUDENTS REALLY NEED

Lilian Boerboom, Project Manager and Programme Secretary for the Harmonisation of Educational Logistics at Leiden University:

"In 2016, we conducted a survey in preparation for the tender for a new learning management system. For this we mapped out all the aspects of the digital learning environment, including the areas for improvement. This resulted in a large university-wide programme: Harmonisation of Educational Logistics. We have been trying to optimise the educational logistics processes from the students' perspective since July 2017.

The university is currently expecting a lot from students when it comes to the organisation of their studies. However, sounding board sessions with students have shown that they are unable to find the information. Students indicated that they have to retrieve information from different places and the available information was often incomplete or provided late. They often do not receive any notification when changes take place.

The main conclusion was that all the relevant information for study organisation should be in one place. Students use Brightspace to study. What they miss is a central place where they can organise their studies. This is about issues such as registration, timetables and access to study results. Those are exactly the things the Harmonisation of Educational Logistics programme is tackling. Currently, they have to use all kinds of applications to register. We prefer them to use that time to actually study rather than organise their studies.

We visited institutions that have a student portal to gain knowledge and inspiration. We collaborated with students to have a prototype developed in order to explain the student portal concept properly and to give people an idea of what our student portal could look like. There is no ready-made platform that focuses on an integral service perspective. We need to develop it ourselves or have it developed.
The Executive Board decided on our business case in December 2019. A tender is now underway to select a party that will develop it and the technological solution it will use to do this. The portal must go live in the summer of 2021.

Success factors
A UX designer worked with the students to develop a prototype of our student portal. This will also be done for the real portal soon. We work in an agile way with short sprints and user tests. This allows you to deliver something that students really need.

We can talk for a long time – that is something we at Leiden University are very good at – but the programme's power lies in actually getting started. We need to make sure that it is on the agenda, it has been triggered and has become an inevitability. The great thing about a programme is that you can tackle a number of things together. You do need to monitor your scope. In this case, the scope is already quite broad as it affects many things. It is huge.

Our most important success so far is process optimisation. We make clear arrangements, which we document in a policy. Where there is added value, we implement applications such as the student portal and a timetable publishing system. An application follows a process, but it does make what we are saying visible. We can keep on repeating how people need to record data for a very long time, but they will only notice what happens if they don't do this (correctly) when the application is actually there. It will cause problems for the students and it won't be the application's fault.

More difficult to realise
Most employees recognise the need to put the students first, but if you want to make concrete arrangements, they often still tell us: "But the organisation is also important". Putting the students' perspective first has implications that not everyone embraces. Why is that? People don't like change. They have worked hard on efficient and effective processes within their faculties. They are afraid that if someone makes that house of cards collapse, they will be the ones cleaning up the mess afterwards. Some faculties are well organised, so I understand where they are coming from. Also, what we want is not necessarily better for their students; it is better for other students. We need to highlight that very clearly. A steering group will look at everything and if any policy agreements are made, they will deal with all the various bodies. We are very careful in our work, and we will certainly not start with pulling at any of the foundations of that house of cards."

Recommendations by Lilian Boerboom:
- Have courage to articulate your goal and vision. You need a clear story and a Board that promotes this story. Keep repeating your message.
- Images are powerful. Once we had a prototype, our story came to life.
- Choose a programme. Projects are not sufficient, because everything is connected. By addressing a number of related issues, you can take some actual steps forward and improve students' entire study experience.

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