A digital maturity model for higher education

A COMPASS FOR DIGITAL MATURITY

COMPASS

ABOUT THIS BOOK

Seven domains, a five-level maturity scale and three cross-cutting requirements to help universities and other higher education institutions take stock of their digital practice and decide where to focus their effort.

Version 2.0: professional development and educator competencies are brought together in a single domain with two strands, a catalogue of 297 indicators identifies five key indicators per domain, and survey templates complete the set.

Version 2.0 · October 2026

JEAN-FRANÇOIS (JEFF) VAN DE POËL
Digital Learning Allien
ialliance.ch/compass

LICENCE
CC BY-NC-SA 4.0
Free to share and adapt for non-commercial purposes

COMPASS. A compass for digital maturity in higher education

Jean-François (Jeff) Van de Poël

Version 2.0 · October 2026

Online version: ialliance.ch/compass

Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International licence (CC BY-NC-SA 4.0). You may share and adapt this work for non-commercial purposes, provided that you credit the author and distribute your adaptations under the same licence.

To cite this work: Van de Poël, J.-F. (2026). *COMPASS. A compass for digital maturity in higher education* (version 2.0). ialliance.ch.

STATEMENT ON THE USE OF ARTIFICIAL INTELLIGENCE

The COMPASS model, its seven-domain structure, its maturity scale, its principles and the text of its chapters are the work of the author, who takes responsibility for them.

Generative AI tools (Claude, Anthropic) were used as assistants for the layout, for harmonising the style (rewording turns of phrase and removing parenthetical dashes), for checking the bibliographic references and for writing first drafts of the new parts of version 1.1 (sections 1.5 and 1.8, the paragraph on the online version in 1.6, annexes A and B). For version 2.0, the same tools were used to reorganise chapters 4 and 5 of version 1.1 into a single chapter, to write a first draft of its new introduction, of the catalogue of indicators (annex C) and of the survey templates (annex D), and to rebuild the layout. The new numerical targets in these two annexes are suggested benchmarks, which do not come from any published source. The author directed, reviewed, amended and approved all of this content. The English text was translated from the French with the same tools.

The references were checked one by one in September 2026. Those whose existence could not be established were removed; the others were corrected where necessary.

WHAT IS NEW IN VERSION 2.0

- Seven domains instead of eight: professional development and educators' digital competencies now form a single domain, "Educator Competencies", in two strands (chapter 4).
- Five key indicators per domain, presented as a table in each domain chapter.
- A catalogue of 297 indicators (annex C).
- Survey templates: eleven questionnaires and thirty-four questions (annex D).
- A questionnaire reorganised around the seven domains, still in sixty-one questions (annex B). The domain weights have been adjusted so that the maturity index remains comparable with that of version 1.1.
- A reminder of what version 1.1 brought: the three cross-cutting lenses (section 1.5), the COMPASS assistant (section 1.8), the link with the AI Readiness diagnostic (annex A), the online questionnaire (annex B) and a verified bibliography.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Contents

OPENING

Foreword 4

Introduction 6

USING THE MODEL

1 Using COMPASS 10

THE SEVEN DOMAINS

2 Digital Governance and Strategy 18

3 Tool Portfolio and Infrastructure 35

4 Educator Competencies 53

5 Students' Digital Competencies 87

6 Support and Helpdesk 104

7 Projects and Innovation 121

8 Valorisation and Recognition 138

CLOSING

Setting COMPASS in motion 156

Annex A · COMPASS and the AI Readiness diagnostic 164

Annex B · The online questionnaire (version 2.0) 169

Annex C · Catalogue of indicators 172

Annex D · Survey templates 207

Bibliography 211

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Foreword

My path in digital education spans more than thirty years. It began in Vietnam, in the mid-1990s, at a time when most things were improvised in computer rooms with unreliable equipment. It continued at the University of Liège, around the first virtual campuses and then the MOOCs, which were supposed to open the university to the whole world. They did not really do so. It carries on today at the University of Lausanne, at HETSL and at Eduhub. From one setting to the next, the same concern has stayed with me: putting technology at the service of people. I have drawn one simple conviction from it: a technology delivered on its own does not change much.

From this trajectory, I have drawn a way of working. In digital matters, sound decisions emerge from a back-and-forth between two requirements that are too often set against each other. On one side, closeness to the ground, without which we impose solutions disconnected from actual practice. On the other, distance, without which we chase every novelty without understanding what is really at stake. Drawing on the one while cultivating the other is probably what has guided my work most. Three authors help me do so. Perriault showed how a tool always ends up diverted from the use that was planned for it. Rabardel described how people actually make an instrument their own. Laurillard brings everything back to the quality of the dialogue between educator and student. All of them, in the end, point to the same thing. What matters is decided in use, and no directive can decree a use.

Across audits and training plans, the same unease kept returning. There is no shortage of models (SAMR, TPACK, maturity grids, competency frameworks), but each one sheds light on only part of the problem. None gives an overall view, or allows an institution to look at its situation as a whole, without complacency, and then decide where to focus its effort. COMPASS was born of this gap.

That is where the name comes from. We are offered many maps that claim to show the road to follow. What was missing was a compass: a few reference points for keeping north when the terrain gets difficult. COMPASS does not say what to do. It recalls what must not be lost from sight: seven dimensions, a five-level maturity scale, and three non-negotiable requirements.

The arrival of generative AI has made all this far more pressing. Thousands of educators and students have had to decide quickly, often without clear guidance: allow, prohibit, regulate. I have seen entire institutions endure a situation they could have anticipated. Having a compass has ceased to be a luxury. I have therefore built AI into each dimension of COMPASS, rather than making it a separate chapter, because the way an institution handles AI already says a great deal about how it governs itself.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

This book rests on a few principles that matter to me. People come before tools. Pragmatism prevails over positions of principle. And I prefer to share what I produce rather than keep it to myself: I have always published my work in open access, this book included. I write above all to give you something to find your bearings with; holding the course will be up to you.

Jean-François "Jeff" Van de Poël
Lausanne, June 2026

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Introduction

Higher education has never stopped changing, but the pace has run away. In a few decades, universities and other higher education institutions have taken in far larger and more diverse populations (Altbach, Reisberg, & Rumbley, 2009), whose pathways and needs no longer resemble those of previous generations (Tinto, 2012). Their missions have widened, their funding has tightened, and society asks them both to open their doors and to account for the quality of what they produce (UNESCO, 2021). All of this is unfolding in an economy where information and networks have become the raw material of activity (Castells, 2010). The pandemic then forced, within a few weeks, a massive shift to distance teaching, and then to hybrid forms that have settled in for good (Hodges et al., 2020; Bates, 2019). In the same movement, data has established itself as a central material of academic life, with its promises of efficiency and its risks of surveillance (Williamson, Bayne, & Shay, 2020; Selwyn, 2016). Each wave has brought its tools, its obligations and its rhetoric. Most institutions did not have the leisure to choose them. They had them imposed.

This transformation does not affect everyone in the same way. Gaps are widening between well-resourced institutions and those that are less so, and within institutions themselves, between students whose digital practices are very unequal. It was long believed that there were "digital natives" who were spontaneously at ease with technology; this idea has proved false and even harmful, because it masks real inequalities of access and competence (Bennett, Maton, & Kervin, 2008; Brown & Czerniewicz, 2010; Kirschner & De Bruyckere, 2017). To design digital teaching without taking these gaps into account is to risk aggravating what one claims to resolve.

Faced with this accumulation, those who support digital transformation run into a discreet but stubborn difficulty: the abundance of reference frameworks. To help educators integrate technology, the SAMR model was proposed, which classifies uses from simple substitution through to the redefinition of tasks (Puentedura, 2006). To describe the knowledge required, people have relied on TPACK and its interweaving of technological, pedagogical and content knowledge (Koehler & Mishra, 2009). To situate the digital competencies of those who teach and train, Europe published the DigCompEdu framework (Redecker & Punie, 2017). To these are added the principles of constructive alignment (Biggs & Tang, 2011), digital capability frameworks (Jisc, 2019) and any number of institutional maturity grids. Each of these models is useful, and often excellent. But they share a limitation: almost all of them are set at the level of the educator or the course, and leave the level of the organisation in the shade. None, taken alone, shows the territory as a whole. We have very good neighbourhood maps, but no plan of the city.

This fragmentation has a cost. It leads to educational technology being treated as a matter of individual competencies or of tools to deploy, whereas the decisive obstacles are most often

© Jean-François Van de Poël · CC BY-NC-SA 4.0

organisational: an absent strategy, blurred roles, failing support. Selwyn (2016) showed how much the discourse on digital education feeds on vague promises and hollow words, at the expense of serious analysis. The observation is not new. From school computing in the 2000s to the massive online courses of the following decade, recent history is strewn with technologies presented as revolutionary that did not keep their promises, for want of taking uses and organisations seriously (Cuban, 2001; Reich, 2020). Horizon-scanning reports confirm every year that the brakes have less to do with the availability of tools than with the capacity of institutions to steer them (EDUCAUSE, 2024). What is really at stake lies in the encounter between a scheme and its actual uses.

Many institutions do nonetheless have a digital strategy. The problem is that it often remains a document, with no real purchase on everyday practice. Between the text voted in council and what actually happens in a classroom or in a support service, the gap can be considerable. This gap stems from the very nature of use, far more than from a simple failure of execution that could be corrected by sheer will.

On this point, two pieces of work that are already old remain strikingly relevant. Perriault (1989) described what he called the "stagecoach effect": a new technology is first used to do what the old one did, and its own potential is revealed only gradually, through unforeseen diversions. Use follows its own logic, which largely escapes the intentions of the designers. Rabardel (1995) extended this idea by showing that an instrument fully exists only through the process by which a person makes it their own and turns it into a genuine means of acting. The consequence is simple to state and hard for an institution to accept: a use cannot be decreed by directive. One can equip, train, allow or prohibit, but appropriation is built over time, within communities of practice where ways of doing things are passed on and reconfigured (Lave & Wenger, 1991). To think about digital transformation without taking this logic of use into account is to confuse the purchase of a tool with the evolution of a practice.

The arrival of generative artificial intelligence illustrates this mechanism without overturning it. Within a few months, models capable of producing text, code or images found themselves in the hands of millions of educators and students, most often without clear guidance (Bozkurt et al., 2023). International organisations published recommendations on responsible use (UNESCO, 2023), in line with the OECD principles on AI (OCDE, 2019), and institutions wavered between prohibition, tolerance and enthusiasm. It would nevertheless be misleading to present this technology as an isolated rupture. It is one of the pressures bearing on higher education today, on a par with massification, hybridisation, the demands of inclusion or budgetary constraint. What sets it apart is its power to reveal. The way an institution receives AI, with or without a course, exposes the degree of maturity of its entire digital governance. An institution that already knows who decides, on what criteria and with what transparency, gets through this wave with far more composure than one that discovers these questions in a rush.

This is where the idea of a compass comes in. Faced with uncertain terrain, the temptation is to look for a map that would show the road to follow. But no map holds for long when the

© Jean-François Van de Poël · CC BY-NC-SA 4.0

landscape changes fast, and a route imposed from above runs up against academic freedom as well as the diversity of contexts. What an institution needs is stable reference points: a few cardinal directions that recall what must not be lost from sight, whatever path is taken. There is nothing original about the image. The European Commission itself adopted the compass metaphor to structure its digital strategy for 2030 (Commission européenne, 2021). COMPASS applies this logic at the scale of a higher education institution, at a time when universities are rethinking their place in society (European University Association, 2021).

The model connects the existing frameworks. It proposes seven domains that cover the whole ecosystem: governance and strategy, the tool portfolio and infrastructure, educator competencies and their professional development, students' digital competencies, support and helpdesk, projects and innovation, and lastly the valorisation and recognition of practices. With each domain it associates a five-level maturity scale, from the absence of action to a fully established practice. This gradation matters: it avoids the all-or-nothing trap and makes it possible to position oneself honestly, recognising that one can be advanced in one domain and a beginner in another. Finally, the model maintains three cross-cutting requirements that run through all the domains and without which no maturity can be built to last: accessibility and Universal Design for Learning, data protection, and responsible use of AI. Where SAMR or TPACK shed light on teaching practice, and where DigCompEdu describes competencies, COMPASS offers the overall view that helps an institution decide where to focus its effort first.

One clarification is needed, to set aside a frequent misunderstanding. Positioning oneself on a maturity scale is something other than undergoing an audit or collecting a score. A level has meaning only in relation to an ambition and a starting point; it indicates a direction. Reduced to a league table, maturity discourages the least advanced teams and distorts the diagnosis, since everyone then starts defending their position rather than describing it. What COMPASS seeks to make possible is the reverse: an honest conversation between people who at last have the same vocabulary for looking at their situation and deciding what comes next.

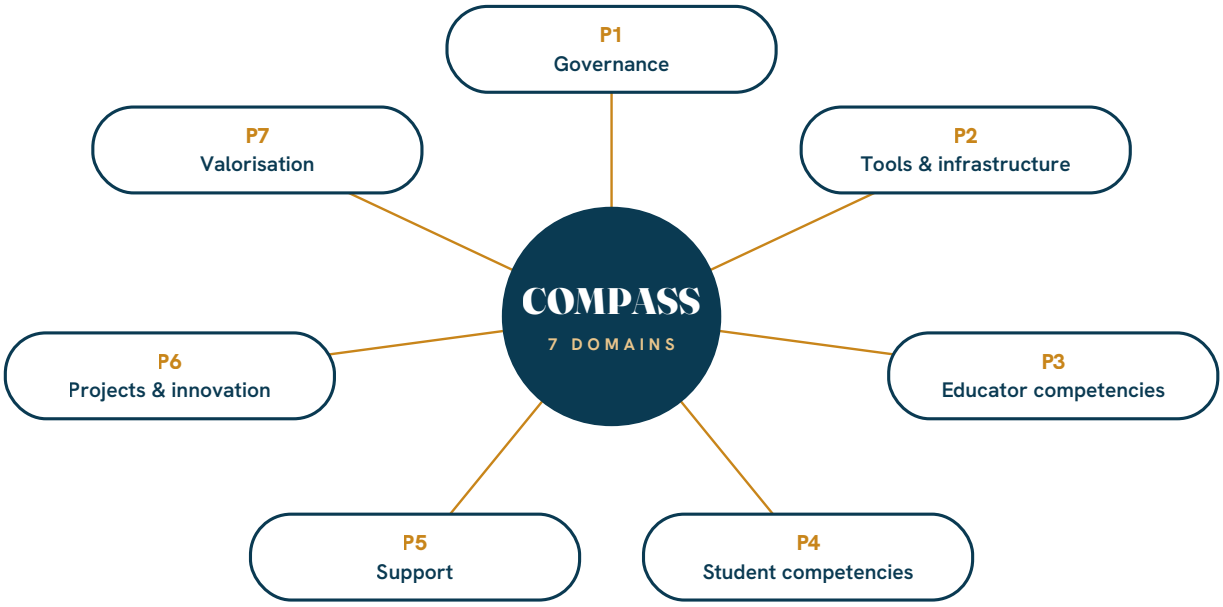
This book is addressed to a deliberately broad readership. Decision-makers will find in it a grid for situating their institution and weighing their priorities. Educators will see how their practices fit into a larger whole, and what the institution owes them in return. Students will recognise the conditions of a fair and intelligible learning environment, where the rules are clear and the same for everyone. As for the services that support digital learning, they will at last have a common language for talking with actors who are too often scattered across parallel logics. These services occupy a pivotal position, at the intersection of decision-making, technology and pedagogy, and yet their work remains barely visible in most organisation charts. Each of these readers can enter the book by the door that concerns them, without having to read it all in one go.

The book is organised to make this kind of reading flexible. The present introduction sets out the conceptual framework. A first chapter, deliberately short and concrete, presents the

© Jean-François Van de Poël · CC BY-NC-SA 4.0

different ways of using COMPASS: as a snapshot of the present state, as a projection towards a desired state, as a trajectory linking the two, or as a common language for bringing into dialogue actors who understand each other poorly. The seven chapters that follow each deal with one domain, according to a constant structure: why this domain matters, how to understand it, what it produces in concrete terms, the pitfalls that recur most often, questions for self-assessment, and a description of what an accomplished practice looks like. This regularity is a deliberate choice. It makes it possible to read the book in full or to move freely from one domain to another, according to the needs of the moment. Finally, four annexes present the link with the AI Readiness diagnostic, the questionnaire of the online version, the catalogue of indicators and the survey templates.

A word remains to be said about the spirit behind these pages. COMPASS does not prescribe. It says neither which pedagogy to adopt nor which tools to buy. It recalls the cardinal points and leaves each institution to chart its own route, bearing in mind that technology remains a means at the service of the people who learn and who teach. It is on this condition that the compass is really of any use.



The seven domains of COMPASS, each to be assessed on the maturity scale from 0 to 4.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

CHAPTER

1

Using COMPASS

COMPASS can be read, but above all it is meant to be used. This chapter is the user's guide, and it is deliberately concrete. The essentials are quick to grasp and can be put into practice without lengthy training. They are all here: how the maturity scale works, the five ways of using the model, the three requirements that cut across every domain, how to measure those requirements with three lenses, and a simple way of running a first assessment. These are followed by the most common pitfalls and an introduction to the assistant that extends the review online.

1.1 The maturity scale, from 0 to 4

Every COMPASS domain is read on the same scale, which runs from 0 to 4. The scale describes how firmly a practice is established in the institution, that is, how solid and how embedded it is, independently of any measure of performance or of teaching quality.



The five maturity levels, from the lightest (absent) to the darkest (mature).

Level 0 (absent) corresponds to a situation in which nothing is structured. Individual initiatives may exist, but they remain isolated and undocumented. Level 1 (pilot) refers to experiments led by a few motivated people, with no guaranteed framework and no assurance of continuity. At level 2 (partial), an approach is in place, but unevenly: it covers part of the institution without being systematic. Level 3 (deployed) describes an approach that is institution-wide, documented and steered, with clear responsibilities and regular monitoring. Finally, level 4 (mature) refers to a practice that is established, evaluated and continuously improved, and that survives the departure of the people who launched it. This last criterion is often the most telling: an approach is truly mature only when it no longer depends on one person's goodwill.

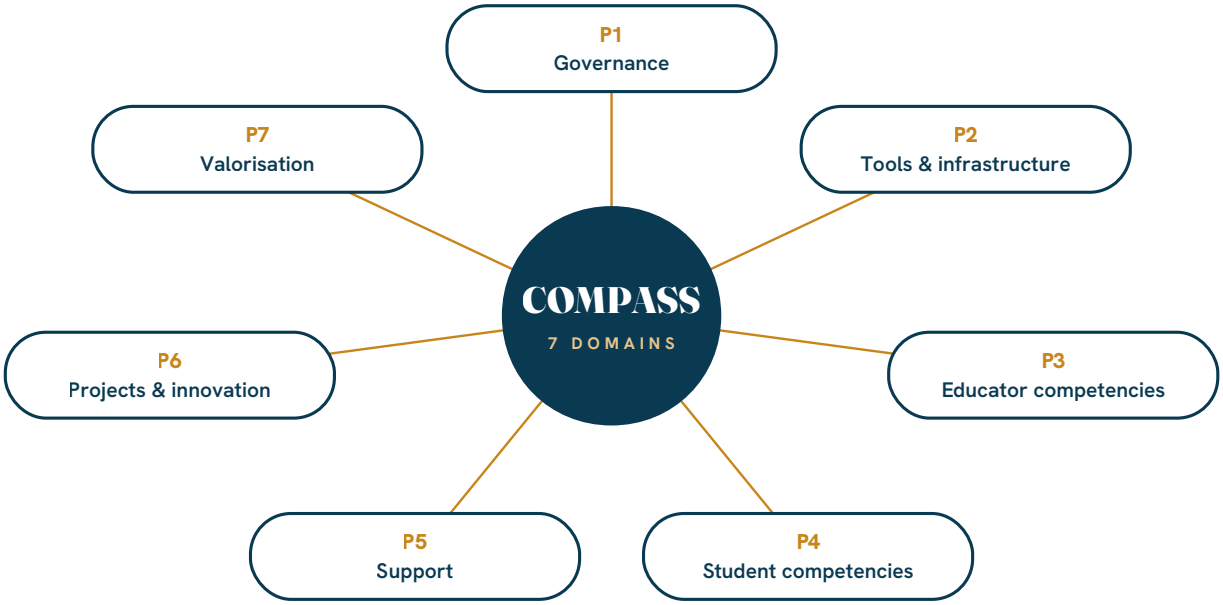
© Jean-François Van de Poël · CC BY-NC-SA 4.0

To make the scale concrete, let us take an example: training educators in digital practice. At level 0, nothing is on offer and everyone manages alone. At level 1, a one-off workshop is run by a motivated individual, with no guarantee of a follow-up. At level 2, a programme exists, but it mainly reaches the volunteers in one faculty. At level 3, a structured pathway is open to all teaching staff, with enrolment, monitoring and recognition. At level 4, the pathway is differentiated according to need, linked to the competency framework, evaluated on its actual effects and adjusted every year. The same reasoning carries over to each of the seven domains.

Two precautions apply to everyone. First, a level must rest on evidence. Claiming level 3 means being able to show the scheme, the people responsible for it and how it is monitored. Without that evidence, you drop down a level. Second, you position yourself domain by domain. It is normal to be advanced in one and a beginner in another. Nobody reaches level 4 everywhere, and trying to do so would even be counterproductive.

1.2 Five ways of using the model

COMPASS can be used in several ways. Five uses stand out, and they combine according to the moment and the need. Each also carries a risk that is better known in advance.



The seven COMPASS domains, each to be assessed on the maturity scale from 0 to 4.

The snapshot answers the question "where do we stand?". You go through the seven domains and assign each one a level, as honestly as possible. Its value lies in its candour, because a

© Jean-François Van de Poël · CC BY-NC-SA 4.0

complacent snapshot is useless. Done well, it brings to light blind spots that nobody could see, and at last gives a shared picture of the situation. The most frequent risk is overrating yourself for reassurance or, more rarely, underrating yourself; the requirement for evidence, at every level, corrects both.

The projection looks further ahead: "where do we want to go?". For each domain, you set the maturity level you wish to reach, in the light of the institution's mission and context. A university of applied sciences may aim high on student support and more modestly elsewhere, and that is no failing. The projection makes these choices explicit and open to discussion. The risk would be to aim for level 4 everywhere: a uniform ambition exhausts teams and blurs priorities.

The trajectory tackles the question "where do we start?". The gap between the snapshot and the projection becomes a roadmap. Rather than trying to deal with everything at once, you choose the two or three domains where the effort will have the greatest effect, and you stick to them. The risk here is spreading yourself too thin: two or three projects seen through to the end are better than seven opened and then abandoned.

Benchmarking introduces a comparison: "compared with what?". Using a common scale, you place faculties or services in relation to one another, or the institution in relation to itself from one year to the next. The aim is to learn. A comparison sometimes reveals that a good practice already exists somewhere in the house, and that all it takes is to spread it. The risk is sliding into a league table: as soon as it becomes a competition, benchmarking pushes everyone to embellish their situation rather than describe it.

The common language, finally, is for talking to one another. COMPASS provides a vocabulary shared between governance, IT, teaching and learning, support services and students. Saying "we are at level 2 on educator competencies" is more useful than "it's not quite there yet", because everyone then understands what is being discussed and what is missing to move to the next level. The risk would be to turn this vocabulary into jargon reserved for a few insiders; it is only worth something if it remains understandable to all stakeholders, students included.

1.3 Using COMPASS over time

These five uses come into their own when they are repeated. A single snapshot gives a photograph. Repeated every year, it becomes a film that shows the ground covered, the real progress and the points that resist. The simplest approach is to set a rhythm, annual or six-monthly, and to keep every version so that they can be compared. The projection itself is not set in stone: an institution learns as it moves forward, and it is healthy to revise its targets as the context changes. It is this repetition that distinguishes a one-off diagnosis from genuine steering.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

1.4 Three cross-cutting requirements

Three requirements run through the seven domains. The value of each domain depends on them. A high level of maturity that neglects them remains fragile. In every domain chapter, these three requirements return in the form of questions, precisely so that they are not lost from view.

The first is accessibility and Universal Design for Learning. The approach known as UDL invites us to design for student diversity from the outset, by offering several ways of presenting information, of engaging in the activity and of showing what has been learned, rather than adding adaptations after the fact (Meyer, Rose, & Gordon, 2014; CAST, 2024). In concrete terms, this means reliable subtitles, documents that a screen reader can read, or alternatives when a format excludes some people. For digital content, the WCAG guidelines provide a precise benchmark (W3C, 2023). In many countries, accessibility is also a legal obligation. A highly advanced scheme that leaves some students behind remains immature.

The second is data protection. Every tool and every use of learning data must comply with the legal framework: the GDPR in Europe and the new Federal Act on Data Protection (nFADP) in Switzerland. The principles of data minimisation, purpose limitation and consent protect both individuals and the institution. In practice, three habits help: knowing which data are collected and why, knowing where they are hosted, and carrying out an impact assessment when the risk is high. Artificial intelligence tools hosted outside the European or Swiss area call for particular vigilance.

The third is responsible use of artificial intelligence. International recommendations emphasise transparency of use, human oversight of decisions and attention to fairness (UNESCO, 2023; OCDE, 2019), and the ethical frameworks proposed in recent years offer useful reference points (Floridi et al., 2018; Holmes, Bialik, & Fadel, 2019). On the ground, this means saying clearly what is permitted, keeping a human decision where it matters, and providing an alternative when AI is deliberately excluded from an activity. In COMPASS, this requirement is checked domain by domain.

1.5 Measuring the cross-cutting requirements: the three lenses

The three cross-cutting requirements run through the seven domains. To prevent them from remaining mere intentions, the online version of COMPASS measures them separately, like lenses placed over the whole model. A lens brings together, in each domain, the questions that deal specifically with artificial intelligence, with accessibility or with data protection, and calculates a sub-score from those questions alone.

In the questionnaire, these questions carry a badge. Version 2.0 has twenty-six for AI, five for accessibility and four for data, out of sixty-one questions in total. A single question may belong to two lenses, for example when it concerns the data processed by an AI tool. The result

© Jean-François Van de Poël · CC BY-NC-SA 4.0

can be read in two ways. The overall sub-score for each lens indicates how far the requirement is being addressed in the institution. The breakdown by domain shows where it is really being worked on and where it is still only an intention, which is often more instructive than the overall figure.

Alert thresholds accompany these sub-scores: below 60% for AI and for data, and below 70% for accessibility, the tool flags a priority. The higher threshold for accessibility reflects its status as a legal obligation. A sub-score built on four or five questions remains an indication. It serves to open the discussion and is confirmed by evidence, as with any maturity level.

The weight of AI in the overall index

AI occupies a large place in the questionnaire, because it now concerns each of the seven domains. If all questions carried the same weight, the COMPASS Maturity Index would become, for almost half of its value, an AI index. To keep an index of digital maturity in the broad sense, the AI questions count for one third of each domain's score, and the other questions for the remaining two thirds. This setting is a design choice. An institution that wants a review centred on AI can read the AI lens directly, which keeps all its detail.

A maturity scale read through the AI lens

The 0 to 4 scale applies to AI as it does to other subjects. Read through the AI lens, it takes the following form, which helps in interpreting the sub-score and the dedicated radar chart.

LEVEL	TYPICAL SITUATION FOR AI
0: Absent	The subject is ignored, or a blanket ban is declared without being enforced.
1: Pilot	Unsupervised individual uses (shadow AI) and a few isolated initiatives.
2: Partial	A framework exists but is unevenly known; the rules vary from one course to the next.
3: Deployed	Safe environments, consistent rules, training available for staff and students.
4: Mature	Evidence-based steering within a dedicated body, regular revision of the framework, contribution to the field (SoTL, sharing between institutions).

The move from level 2 to level 3 often marks the decisive turning point: it corresponds to the moment when the rules stop varying from one course to the next and students finally know where they stand. Level 4 requires a body that revises the framework on the basis of what it

© Jean-François Van de Poël · CC BY-NC-SA 4.0

observes, which the AI Readiness diagnostic presented in Annex A identifies as one of the rarest markers of maturity.

1.6 Running a first assessment

The first snapshot must above all be honest. Here is a simple way to proceed.

1. Bring together a small representative group: someone from decision-making, someone from the technical side, someone from teaching and learning, a support service and, if possible, a student. A diversity of viewpoints is worth more than one person's expertise.
2. Go through the seven domains one by one and assign a level from 0 to 4. For each level claimed, ask for concrete evidence. Where there is no evidence, you drop down a level.
3. Record disagreements rather than smoothing them over. When two people place the same domain at different levels, it is often because they are not seeing the same reality, and that divergence is already valuable information.
4. Set down the result in a readable form, for example as a table or a seven-branch profile, which can be taken in at a glance and compared from one year to the next.
5. Choose two or three priority domains, those where progress would have the greatest effect in the current context. For each one, define a first concrete deliverable and a deadline, then set a date for reassessment, for example in six to twelve months.

A workshop of two to three hours is enough for a first version. What matters is the conversation that the first set of scores triggers and the decision that comes out of it, far more than its precision.

The online version of COMPASS, freely available at ialliance.ch/compass, supports this process. Its sixty-one-question questionnaire, presented in Annex B, can be completed in twelve to fifteen minutes, in French, English, German or Vietnamese. It produces a profile by domain, the three cross-cutting lenses and a printable report. The answers stay in the browser of the person completing the questionnaire: nothing is stored on the server. Only the assistant described in section 1.8 sends messages to the language model provider, and only after consent. The tool prepares the workshop discussion and keeps a record of it.

1.7 Some pitfalls to avoid

Complacency. Awarding yourself good levels for reassurance drains the exercise of all interest. Evidence is the best antidote.

The league table. Turning the assessment into a ranking of faculties or services pushes everyone to embellish their situation and makes the least advanced teams close up.

Spreading too thin. Trying to progress everywhere at once leads to advancing nowhere. Two or three priorities that are kept to are worth more than seven open projects.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Forgetting the cross-cutting requirements. Aiming for a high level while leaving aside accessibility, data protection or responsible use of AI produces a maturity in appearance only, which does not hold.

The one-off exercise. Doing the snapshot once, then putting it away in a drawer, amounts to taking a photo without ever checking whether you have moved forward.

1.8 Extending the review with the COMPASS assistant

A review has value only if it leads to decisions. To help take that step, the online version offers a conversational assistant at the end of the questionnaire. It draws on generative AI and on a corpus of selected strategic resources: reference frameworks, guidelines, guides and reports whose existence and content have been verified. The assistant receives a summary of the institution's COMPASS profile, that is, the overall index, the three lenses, the scores by domain and the points judged weak, together with whatever context the person chooses to describe.

Its stance extends that of the model. The assistant proposes two or three options, with their costs, timescales and risks, rather than a single plan. It asks questions about the context when this is missing: size of the institution, available resources, how governance is organised, cantonal or national legal constraints. Every factual statement must be supported by a passage from the corpus, cited in the form [S1], [S2]. When the corpus does not cover a question, the assistant says so and stays at the level of general advice, without inventing a reference or a figure.

Confidentiality and control of data

The assistant was designed to retain nothing. The server that relays the exchanges is hosted in Switzerland and records no content. The conversation exists only in the browser tab and disappears when the tab is closed, or at the press of a "Clear all" button, which also deletes the answers and the results. The messages are nevertheless sent to the language model provider in order to produce the replies. This transfer, which leaves Switzerland, takes place only after explicit consent, and the interface recommends entering no personal data or confidential information, neither of which is needed to obtain advice in any case.

The person stays in control of what they take away. They can export the conversation, with the sources cited, and produce a printable report that brings together the maturity profile and the exchanges. These files are created on their own device.

Using the assistant well

The assistant is at its best between the snapshot and the trajectory. After the positioning workshop, it helps to explore avenues, prepare a roadmap or anticipate objections. Its proposals remain working hypotheses. They are then discussed as a group and checked against

© Jean-François Van de Poël · CC BY-NC-SA 4.0

the sources it cites, because generative AI can be confidently wrong. Used in this way, it illustrates what COMPASS advocates for AI in general: a tool in the service of people's judgement, which keeps the decision in their hands.

COMPASS leaves each institution free to choose what it does with its results. The model helps it to see its situation clearly and to decide what comes next with full knowledge of the facts. The rest belongs to those who bring teaching to life day after day.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P1 · DOMAIN 1

CHAPTER

2

Digital Governance and Strategy

CHAPTER MAP · FOR A QUICK READ

Why this domain matters. Governance sets the course and makes everything else possible. Without clear direction and decisions that someone owns, the other domains move forward in scattered order. It is the base that carries the six that follow.

THE ROAD TO MATURITY, FROM 0 TO 4

0	1	2	3	4
ABSENT	PILOT	PARTIAL	DEPLOYED	MATURE

KEY DELIVERABLES

- Digital education strategy
- Roadmap
- Tool governance framework
- Roles chart
- Dashboard
- AI use policy

ANTI-PATTERNS TO AVOID

- The ghost strategy
- The graveyard of decisions
- Governance mistaken for IT
- AI settled by circular

CROSS-CUTTING REQUIREMENTS, NEVER SUSPENDED

Accessibility | Data protection | Responsible AI

THE KEY IDEA

Mature governance outlives the departure of the people who launched it: it is written into the processes.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

2.1 Why this domain matters

Governance is the founding domain of COMPASS. The book begins with it because it is what makes everything else hold or collapse. The seven domains can be pictured as a building. Governance is the ground and the foundations. Tools, training, support and innovation are the walls and the floors. When the foundations are solid, you can build high. When they are missing, every additional floor weakens the whole structure.

This image is more than a figure of speech. An ambitious strategy without a coherent tool portfolio remains a text with no effect. A competency framework for educators without a budget or a training policy never gets beyond the stage of intention. Rules on the use of artificial intelligence that nobody communicates to students produce arbitrariness, since each educator decides alone. Every time, it is a failure of governance that turns a good idea into a missed opportunity.

The most widespread misunderstanding has to be cleared up at the outset. Digital governance is far more a matter of decision-making than of IT. It is often confused with managing servers, licences and passwords. It is an institution's capacity to take informed, coherent and transparent decisions about the place of digital technology in teaching, and then to keep to them over time (Jisc, 2019). That requires clear direction, assigned responsibilities and the means to follow what is really happening. In the absence of this framework, each faculty, each service and each educator moves forward alone, with their own tools, their own rules and their own blind spots.

The stakes go beyond administrative efficiency. Failing governance is paid for in lost trust when a security incident breaks out, in inequalities when the rules vary from one course to the next, and in waste when tools bought in haste are abandoned a few months later. Solid governance, by contrast, is invisible. It shows in the absence of avoidable crises and in the calm with which the institution meets the next wave, whether that was hybrid teaching yesterday or artificial intelligence today.

2.2 Understanding this domain

What digital governance really covers

Governing digital education means giving lasting answers to four simple questions. Who decides? On what criteria? With what transparency? And how do we check that the decisions are having their intended effects? As long as these questions have no stable answer, the institution is improvising.

In practical terms, governance takes shape in four complementary components. A strategy sets the course, that is, the intentions and the priorities. A roadmap translates that course

© Jean-François Van de Poël · CC BY-NC-SA 4.0

into dated and funded steps. A roles chart specifies who is responsible for what, from senior management to the support services. Finally, a monitoring arrangement makes it possible to know whether progress is being made. None of these components is enough on its own. A strategy without a roadmap remains a wish. A roadmap without clear roles dissipates. Roles without monitoring run idle. It is the way they fit together that makes governance, and that fit is precisely what classroom-centred models leave aside (Jisc, 2019).

Why higher education is a special case

Digital governance has to be thought through differently depending on the type of organisation. In a company, management can impose a single tool and a single procedure on all its teams. A university cannot, as a matter of principle. Academic freedom protects each educator's right to choose their methods, their materials and their forms of assessment. Governance that tried to dictate pedagogy from above would run up against this principle and, more often than not, would fail.

Good digital governance therefore refrains from prescribing a way of teaching. It puts in place the minimal framework within which everyone can exercise their freedom safely, with reliable tools, protected data and accessibility guaranteed for all audiences. The principle that organises this division is called subsidiarity. Decisions are taken at the level closest to the ground that is compatible with overall coherence. Senior management sets the common requirements and the safeguards. Faculties and dean's offices settle locally whatever depends on their context. Finding the right balance between central coherence and local autonomy is probably the most delicate task in this domain. Too much centralisation stifles initiative and feeds workarounds. Too little common framework creates inequalities from one course to the next.

Strategy, plan and policy are not synonyms

The vocabulary of governance lends itself to confusion, and that confusion has very concrete effects. Three objects are often mixed up although they answer different needs. The strategy says why and towards what. It expresses an intention and an order of priorities, over several years. The plan, or roadmap, says what and when. It breaks the strategy down into concrete milestones, with people responsible and a budget. The policy, finally, says what is permitted, prohibited or conditional. It is a binding rule that settles specific cases, for example the use of artificial intelligence in graded work.

Confusing these three registers leads to unusable documents. A strategy filled with detailed procedures ages within a few months. A policy worded as a declaration of intent settles nothing when a dispute arises. Keeping these objects distinct gives you the means to revise each at the right pace: the policy often, the roadmap every year, the strategy more rarely.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Governance, data and trust

A growing share of digital governance concerns data. Learning platforms continuously produce traces of activity, and it is very tempting to see them as a mine of information for steering. The promise is real, but it comes with an equally real risk, that of turning learning into an object of permanent surveillance (Williamson, Bayne, & Shay, 2020; Selwyn, 2016). Data is never neutral. The way it is collected, stored and interpreted reflects choices that commit the institution.

Governing data means, first, deciding what you do not collect. The principle of minimisation calls for gathering only what serves an explicit purpose, and for being wary of dashboards that pile up measures simply because they are available. It then means deciding who can access what, and under what conditions. Finally, it means accepting transparency towards students, who have the right to know which traces are kept and what they are used for.

Behind these choices lies trust, which is an institution's most fragile capital. A data leak, or a use perceived as abusive, destroys in a few days a trust built over years. The episodes of switching online during the pandemic showed how exposed institutions were when they improvised on this ground (Hodges et al., 2020; Czerniewicz et al., 2020). Data governance is therefore more than a mere technical constraint. It conditions the bond of trust between the institution, its educators and its students.

The concrete risks of having no governance

When this domain is neglected, the consequences are neither abstract nor distant. They follow a scenario found in one institution after another. Tools multiply without being inventoried, bought or installed by teams acting in good faith but without coordination. This is known as "shadow IT", the IT in the shadows that escapes the institution's view and therefore any protection. Training is set up with no link to real needs, because nobody has the overview that would make it possible to prioritise. Impulse purchases are decided under the pressure of a novelty, then followed by costly withdrawals when the tool disappoints or raises a legal problem.

Learning data often follows the same path. For lack of a framework, it is collected and exploited without informed consent, which exposes the institution as much as the individuals (Williamson, Bayne, & Shay, 2020). New tools, artificial intelligence included, are deployed without any risk assessment. Accessibility, when it is not thought through upstream, is dealt with as a last resort, which amounts to excluding some students from the outset. Most of the institutions that have gone through a digital crisis, whether a data leak, the hasty withdrawal of a platform or a controversy over the surveillance of remote examinations, were acting with goodwill. What they lacked were the foundations described in this chapter.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Artificial intelligence, accelerator and litmus test

Generative artificial intelligence leaves the nature of governance intact, but it abruptly raises its stakes and its visibility. Within a few months, tools capable of producing text, code and images found themselves in everyone's hands, most often without any clear guidance (Bozkurt et al., 2023). Their growing integration into learning platforms, from learning management systems to automated marking tools, raises questions that cannot be settled at the individual level.

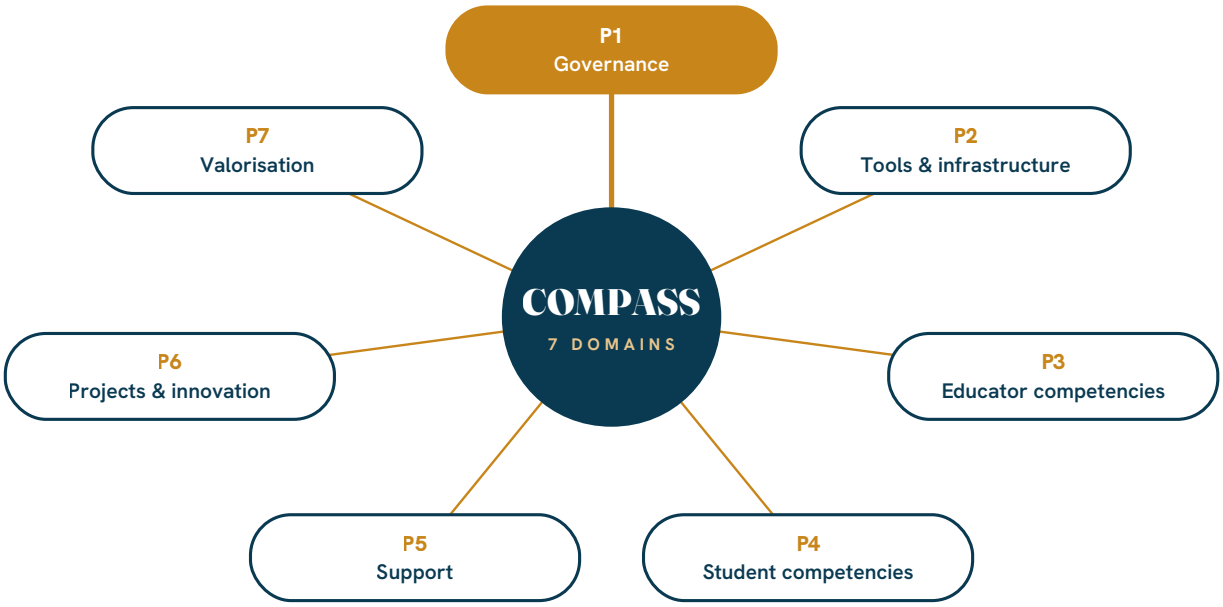
Who decides which uses are authorised and which are not? How are students informed, and consistently so from one course to the next? How can we avoid the false positives of detection tools, which accuse wrongly and undermine trust? How can learners' data be protected when the service is hosted outside Europe or Switzerland? How can we take account of the regulatory framework now taking shape, starting with the European regulation on artificial intelligence (Parlement européen & Conseil de l'Union européenne, 2024)? None of these questions finds a lasting answer in an isolated memo. They call for an explicit institutional policy, an active role for the data protection officer, and a body capable of arbitrating and revising its decisions. International recommendations converge on the principles to be respected, namely transparency of use, human oversight and attention to equity (UNESCO, 2023; OCDE, 2019), and the ethical frameworks proposed in recent years offer concrete reference points for translating them into local rules (Floridi et al., 2018).

This is why artificial intelligence acts as a litmus test. The way an institution receives it exposes the degree of maturity of its entire digital governance. An institution that already knows who decides, on what criteria and with what traceability takes the novelty in its stride. It examines it, frames it, authorises it or sets it aside according to known rules. Conversely, an institution with no body and no policy reveals, beyond a technical lag, a deficit in steering, and artificial intelligence settles in "by default", at the whim of individual initiatives, with neither course nor accountability. AI governance is therefore a stress test of digital governance as a whole.

The link with the other domains

Governance is worth what it makes possible in the six other domains, and its role is easier to understand by following these links. A strategy without a coherent tool portfolio remains theoretical, for lack of an infrastructure to carry it. A competency framework without a budget or a training policy changes nothing in practice. Rules on AI use that are not communicated to students create injustice, because expectations become unreadable. A help service without clear service commitments turns into a black box. Innovation projects without evaluation criteria generate agitation without learning. Valorisation of practices without institutional recognition does not last. In each case, it is governance that supplies the missing condition. It forms the weave that connects the six other domains.

© Jean-François Van de Poël · CC BY-NC-SA 4.0



Governance (P1) conditions and connects the six other COMPASS domains.

2.3 The maturity scale applied to governance



The five maturity levels, from the lightest (absent) to the darkest (mature).

The general COMPASS scale, from 0 to 4, takes on a precise meaning when applied to this domain. It is worth going through its five levels, because they provide a common vocabulary for situating yourself without judging yourself.

At level 0, governance is absent. There is no written strategy, no body and no defined roles. Decisions are taken case by case, under the pressure of events, and nobody has an overview. At level 1, we enter the pilot. A few elements appear, for example a first charter or an informal working group, but they depend on motivated individuals and would not survive their departure. At level 2, the approach is partial. A strategy exists and a body meets, but their reach is uneven. Some faculties are covered, others are not, and the AI use policy remains patchy or poorly known.

At level 3, governance is deployed. The strategy is communicated and applied, the roles are clear, the body meets at a defined rhythm, and a dashboard, however modest, feeds into de-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

cisions. The approach covers the whole institution and no longer rests on a few willing individuals. At level 4, finally, governance is mature. It is deployed, evaluated and continuously improved. Decisions are recorded and accessible, indicators are reviewed and discussed, the AI policy is revised at regular intervals, and the arrangement withstands the replacement of the people who run it. This last point is the best test. Governance is truly mature only when a change of leadership or the departure of a key person does not make it falter.

An institution is rarely at the same level on every aspect of the domain. It is common to have a level 3 strategy and level 1 AI governance, or the reverse. Spotting these internal gaps is already useful information, because they are often what explains everyday friction.

2.4 The expected deliverables

Governance that works can be recognised by what it produces. Here are the concrete objects it leaves behind, with, for each one, what it contains and the mistakes to avoid.

DELIVERABLE	THE PITFALL TO AVOID
The digital education strategy	Too long and procedural, nobody reads it and the slightest novelty makes it out of date.
The roadmap	Without resources, it lines up dated intentions without saying who pays or who acts.
The tool governance framework	Its absence opens the door to shadow IT and to decisions taken on a whim.
The roles chart	Without it, people hunt for the right contact and decisions are taken by default.
The steering dashboard	Decorative, displayed in committee but with no real effect on choices.
The AI use policy	Frozen, it ages worse than a modest but living policy.
The AI steering body and the risk map	Without them, AI governance is reduced to improvised reactions.

The digital education strategy. This is the document that sets the course. It runs to about ten pages, rarely more than twenty, and can be read in one sitting. It sets out a vision, a few ranked priorities, and the principles that will guide trade-offs, including the place given to artificial intelligence. A good strategy explains its choices instead of piling them up, and owns what it will not do. The classic pitfall is the overlong strategy, stuffed with procedures, that nobody reads and that the slightest novelty renders obsolete.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

The roadmap. It translates the strategy into concrete steps over one to three years. Each milestone carries a deadline, a person responsible and a budget, even an approximate one. Without this translation, the strategy remains a text with no grip. The pitfall here is the roadmap without resources, which lines up dated intentions without ever specifying who pays or who acts.

The tool governance framework. This document sets the criteria by which a tool is chosen, maintained or withdrawn. It specifies the requirements for data protection, accessibility, interoperability and sustainability, and it designates who examines requests. It is what makes it possible to answer calmly the recurring question "can we use this tool?". Its absence opens the door to shadow IT and to decisions taken on a whim.

The roles chart. It states clearly who does what between senior management, IT, the data protection officer, teaching support and the faculties. A simple tool, sometimes called a responsibility matrix, distinguishes for each decision who prepares it, who takes it, who is consulted and who is informed. The benefit is immediate: people stop hunting for the right contact, and decisions taken by default, for lack of an identified owner, are avoided.

The steering dashboard. It brings together a small number of indicators that are really monitored and shared. Five indicators looked at every quarter are better than thirty collected and forgotten. Its role is to guide decisions. The pitfall is the decorative dashboard, displayed in committee but with no effect on choices.

The artificial intelligence use policy. This is the binding rule. It specifies what is permitted, prohibited or conditional, for educators and students alike, and it provides alternatives when AI is deliberately excluded from an activity. It is best kept short, readable and revised at regular intervals, because the ground shifts quickly. A frozen policy ages worse than a modest but living one (Holmes, Bialik, & Fadel, 2019).

The AI steering body and the risk map. The body brings together varied profiles, pedagogical, technical, legal and student, at a defined rhythm, and publishes its minutes. It relies on a risk map kept up to date, which lists the uses, their potential dangers and the measures planned. Without a body or a map, AI governance is reduced to a succession of improvised reactions.

The formal existence of these deliverables is not enough. A binder full of impeccable documents can perfectly well coexist with failing governance. Their value lies in their real use, that is, in the fact that people refer to them in order to decide.

2.5 Setting up governance that holds

Having the right deliverables is not enough. They also have to be kept alive, and that is often where everything is decided. This section describes how to establish governance that withstands time and changes of people.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Bodies and a rhythm

Governance needs places where decisions are made, and times when people meet. The clarity of the bodies matters more than their number. Many institutions work well with two levels. A strategic steering committee, meeting infrequently, sets the course and arbitrates budget priorities. A more operational body, dedicated in particular to artificial intelligence, meets more often to examine concrete cases, revise the policy and maintain the risk map. What distinguishes a useful body from a ghost body comes down to three simple things: a known membership, a defined rhythm and accessible minutes. A body that meets only in an emergency becomes a permanent crisis unit.

The rhythm deserves particular attention. When meetings are too far apart, decisions pile up and improvisation regains the upper hand. When they are too close together, they exhaust participants and turn into a formality. A quarterly rhythm for strategic steering and a monthly or two-monthly one for the operational body suits most contexts, and can be adjusted as needed.

Clarify roles before adding committees

Faced with a governance difficulty, the common reflex is to create a new committee. That is rarely the right answer. More often than not, the problem lies in blurred responsibilities. Who can decide to authorise a tool? Who must be consulted beforehand? Who settles a disagreement between a faculty and the IT service? As long as these answers are not written down, decisions are taken by default, that is, in favour of the most insistent person or the one in the greatest hurry.

Clarifying roles consists in assigning four distinct functions for each major category of decision. One person or service prepares the decision. Another takes it. Others are consulted beforehand. Still others are simply informed afterwards. Setting this out, once, for routine decisions then saves weeks of trial and error. This work is unspectacular, but it has more effect on daily life than many a strategy.

Involving stakeholders

Governance imposed without consultation is paid for sooner or later in workarounds. Educators apply rules all the better for having helped to define them, and students accept constraints all the better for having had the reason explained to them. Involving stakeholders is therefore a condition of effectiveness. This is especially true of artificial intelligence, where students are both the first people affected and often the best informed about actual uses.

This participation takes varied forms, from one-off consultation on a draft policy to the permanent presence of representatives in the bodies. The essential thing is that it be real. A consultation whose results never change anything turns against governance, because it feeds cynicism. It is better to consult less, but to take account of what you hear.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Leading change

Establishing governance also means leading a change, and changes in a university setting have laws of their own. They rarely succeed through constraint and succeed lastingly through buy-in. Research on leading change in education reminds us that a transformation holds when it relies on practitioners who become its champions (Fullan & Scott, 2009; Darling-Hammond, Hyler, & Gardner, 2017). In practice, this means starting modestly, showing tangible results in a few areas, and letting example do the convincing in place of regulation. Governance that can point to a first concrete success gains a legitimacy that no circular would give it.

One last point deserves emphasis. Overall coherence can be reconciled with the autonomy of the faculties, provided it is conceived as a common framework. The role of central governance is to set the non-negotiable requirements, for example on data protection and accessibility, and to leave the rest to local arbitration. It is this balance that characterises the most advanced institutions (European University Association, 2021).

Connecting digital governance with that of the institution

Digital governance benefits from being tied to the rest of the institution. When it develops apart, in its own committee and with its own vocabulary, it ends up competing with the institution's other bodies and losing influence. The most advanced institutions do the opposite. They connect digital governance to the arrangements that already exist: quality assurance, risk management, institutional strategy and data protection policy.

This connection has concrete effects. A decision on a teaching tool that touches on data protection is best examined together with the data protection officer, and not in parallel. A digital priority written into the institutional strategy obtains a budget more easily than an isolated initiative. A risk linked to artificial intelligence that is handled within the institution's risk management benefits from procedures that are already well tried. The point is to get the existing structures talking to one another.

This connection requires a minimum of translation. Those responsible for pedagogy, technology and legal matters do not spontaneously speak the same language, and that is one of the reasons for the common vocabulary proposed by COMPASS. A shared scale allows a quality body, an IT service and a dean's office to situate the same reality in the same way, and therefore to decide together where they would otherwise decide side by side.

2.6 The anti-patterns

Some configurations recur so often that they are worth naming. Recognising them in time avoids many a detour.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

ANTI-PATTERN	THE REMEDY
The ghost strategy	Shorten it, link it to a funded roadmap, genuinely communicate it.
The graveyard of decisions	An accessible catalogue of decisions, with criteria and dates, reviewed periodically.
Governance mistaken for IT	A multidisciplinary body where pedagogy and law have a say.
AI settled by circular	A short policy backed by a body that revises it.
Stakeholders kept at arm's length	Build consultation in upstream and show that it weighs on the decision.
Steering by intuition	A few simple indicators, chosen and monitored collectively.
The uniform straitjacket	Subsidiarity: distinguish common requirements from choices left to the ground.
Solutionism	Go back to needs before tools; ask the pedagogical question first.
Governance delegated to the vendor	Take back the decisions of principle, demand portability, keep an alternative.

The ghost strategy. A document has been voted through at the top, but it has no grip on everyday practice. It exists on the server and nowhere else. This happens when the strategy was written to meet an external obligation and not to guide action. The way out is to shorten it, link it to a funded roadmap, and genuinely communicate it to the people concerned.

The graveyard of decisions. Choices pile up over the years, impossible to find and never re-read. Nobody knows any longer what was decided, or why. The remedy is a simple object, an accessible catalogue of decisions, with their criteria and their date, that is kept up to date and reviewed periodically.

Governance mistaken for IT. Pedagogical, legal and ethical questions are delegated to the technical service alone, which has neither the mandate nor the legitimacy to settle them. This confusion explains many poorly accepted decisions. The way out is to set up a genuinely multidisciplinary body, where pedagogy and law have as much of a say as technology.

Artificial intelligence settled by circular. A memo was circulated once, with no body to keep it alive and no monitoring to check that it is applied. It is quickly out of date, then circumvented. The remedy is a short policy backed by a body that revises it.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Stakeholders kept at arm's length. Rules have been decided without the educators or the students, who discover them once they have been adopted. They are poorly understood and therefore poorly applied. The correction is to build consultation into the process, upstream, and to show that the opinions gathered really weigh on the decision.

Steering by intuition. Decisions are taken on the strength of impressions, without any shared indicator. Everyone defends their own perception, and the debates get bogged down. A few simple indicators, chosen and monitored collectively, are enough to break the deadlock.

The uniform straitjacket. At the opposite extreme from having no framework, some institutions impose a single rule on all faculties, without taking their contexts into account. Local initiative withers and workarounds resume, in another form. The remedy is subsidiarity, which distinguishes the common requirements from the choices left to the ground.

Solutionism. Governance starts chasing after every new tool, in the hope that a technology will solve an organisational problem. Purchases follow one another, and so do disappointments. The answer is to go back to needs before tools, and to acquire a product only once the pedagogical question has been clearly asked (Selwyn, 2016; Cuban, 2001).

Governance delegated to the vendor. For lack of an internal framework, the institution lets an external provider define its rules in practice, through the default settings of its products and its general terms of use. Dependency sets in without ever having been chosen, and it becomes costly to get out of it on the day the tool changes its price, the way it works or its data policy. This pitfall is all the more common with artificial intelligence because features evolve quickly and few institutions have the time to evaluate them. The remedy is to take back control of the decisions of principle, to demand data portability from the contracting stage, and always to keep a credible alternative. A vendor provides a service, and the policy remains the institution's own.

2.7 A possible trajectory

To make all this concrete, let us imagine a medium-sized institution with no structured digital governance. At the start, it is at level 1. Educators use a variety of tools, an informal group sometimes discusses artificial intelligence, but nothing is written down or shared. A first snapshot, carried out in a workshop, highlights the absence of a policy and the blurred roles. Instead of reforming everything, senior management chooses two priorities, an AI use policy and a roles chart.

Within a few months, a short policy is drafted with educators and students, then communicated. A responsibility matrix is set out for routine decisions. A small body starts meeting every two months and publishes its minutes. Without having become mature, the institution has moved from a reactive mode of operation to a steered one. At the next reassessment, governance reaches level 3 on the essentials, and it turns out that one faculty had

© Jean-François Van de Poël · CC BY-NC-SA 4.0

already developed a good practice for declaring AI use, which only needed to be extended to all. There is nothing exceptional about this trajectory. It simply illustrates that progress is made through chosen steps.

2.8 What accomplished practice looks like

In an institution that is mature in this domain, the strategy is short, clear, read and understood. It explains its choices, including those concerning artificial intelligence, and embraces subsidiarity towards the dean's offices. Decisions are recorded in an accessible catalogue, with their criteria, the alternatives considered and the expected effects, so that nobody needs to reconstruct the history of a past choice. Users are informed: each course states what is permitted where AI is concerned, and alternatives exist for those who cannot or do not wish to use it.

Steering relies on a few useful data, small in number but relevant, which guide the roadmap instead of justifying it after the fact. The roles are clear enough for a tool request to find the right contact without detours. A multidisciplinary body dedicated to AI meets at a defined rhythm and publishes its minutes, which makes decisions visible and open to discussion. Above all, the whole no longer depends on a few people. A change of leadership or the departure of a key person does not call governance into question, because it has become a shared way of doing things and no longer an individual affair. That is the sign by which governance that has reached maturity can be recognised.

2.9 Where to begin, depending on your starting point

The way forward is not the same for an institution starting from nothing and for one that is already well advanced. Three scenarios cover most situations.

If you are at level 0 or 1, the temptation is to write everything at once. That is a mistake. Begin with an honest snapshot, in a workshop, to arrive at a shared assessment. Then choose one or two high-impact deliverables, most often a short AI use policy and a roles chart. These two objects answer questions that everyone is already asking, and they bring immediate relief. The rest will come by accumulation.

If you are at level 2, your problem lies in the unevenness of the approach. One part of the institution is moving forward, the other is not. The effort then goes into extending it to all. Identify the faculties or services not covered, find the good practices already present elsewhere in the house and circulate them, give the body a stable rhythm, and set up a minimal dashboard. At this stage, internal benchmarking is valuable, because it reveals that some solutions already exist.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

If you are at level 3, the challenge becomes one of lasting. Work on resilience to time and to changes of people, by documenting decisions and spreading responsibilities beyond a few individuals. Set up an evaluation of effects, in addition to the monitoring of activities. Revise the AI policy at regular intervals, and compare your successive snapshots to turn diagnosis into steering. Level 4 is a state to be maintained.

The case of small institutions

Everything above may seem tailored to large universities with well-staffed services. That would be a misunderstanding. A small higher education institution needs the same answers, at an appropriate scale, without multiplying bodies or producing voluminous documents. A strategy can fit into a few pages. A single body can combine strategic steering and AI monitoring, provided its membership and its rhythm are clear. The responsibility matrix is even easier to draw up when people know one another.

The risk specific to small institutions lies elsewhere. Since everything there often rests on one or two people, governance is more vulnerable to their departure. That is precisely where documenting decisions and sharing roles come into their own. A small institution that writes down what it decides protects itself better than a large one that relies on the memory of its experts.

2.10 Indicators and questions to ask yourself

This final section brings together what is needed to assess the domain and feed the discussion. It aims to be exhaustive. Not all the elements will carry the same weight in every institution, but none should be set aside without some thought. It can be used in two ways: the indicators to measure and monitor over time, the questions to position yourself honestly on the scale from 0 to 4.

The indicators to monitor

The indicators below are grouped by theme. A few are enough to give a faithful picture. What matters is to choose them collectively, to monitor them over time and to let them influence decisions.

STRATEGY AND COURSE

- the existence of a written digital education strategy, and the date of its last revision;
- the presence of a dated roadmap, with an identified budget, and its completion rate;
- the proportion of announced priorities that have actually been translated into actions.

AI USE POLICY AND RULES

- the existence of an AI use policy, and the date of its last update;
- the share of faculties and services actually covered by this policy;
- the share of courses displaying an AI use statement;

© Jean-François Van de Poël · CC BY-NC-SA 4.0

- the number of AI-related disputes handled according to a known procedure, and not case by case.

BODIES AND ROLES

- how often the steering body meets, and how regularly its minutes are published;
- the membership of the body, and the actual presence of educators and students;
- the existence of a responsibility matrix for routine decisions;
- the average time between a tool request and a reasoned decision.

TOOLS, DATA AND RISKS

- the number of tools with a complete governance sheet, including criteria, the person responsible and the data processed;
- the share of tools that went through a data protection assessment before deployment;
- the existence of an AI risk map, and the date of its last update;
- the number of incidents recorded, and the share of them that led to a corrective measure.

STEERING AND EFFECTS

- the number of indicators really monitored and discussed by the body, as opposed to those that are merely collected;
- the trend in tool adoption and user satisfaction;
- the extent to which accessibility and digital sobriety are taken into account in decisions, measured by their explicit presence in the criteria.

The five key indicators

Among all the indicators of this domain, five deserve to be tracked first. Annex C gives the full catalogue, with the definition, calculation, data source, frequency and owner of each indicator. The targets are benchmarks to adapt to your context.

KEY INDICATOR	TARGET	WHERE TO FIND THE DATA	FREQUENCY
Strategy in force Existence of an educational digital strategy that is validated, published and less than two years old.	**Document published < 24 months**	Institutional website, validation minutes	Annual
Decisions published with criteria Share of digital education governance decisions published with their criteria, the alternatives considered and the expected impacts.	**≥ 90%**	Catalogue of decisions, minutes	Every six months
Shared dashboard DATA Existence of a steering dashboard covering tool adoption, pedagogy, accessibility, incidents and costs, accessible to stakeholders.	**5 out of 5, updated every six months**	Institutional dashboard tool	Every six months

© Jean-François Van de Poël · CC BY-NC-SA 4.0

KEY INDICATOR	TARGET	WHERE TO FIND THE DATA	FREQUENCY
AI policy in force AI Existence of an AI usage policy (permitted, prohibited, conditions) that is validated, published and revised within the last two years.	< 24 months, revised	Institutional website, minutes of the AI body	Annual
AI transparency in courses AI Share of course plans that specify the permitted or prohibited uses of AI and how to declare them.	≥ 80% → 100% of course plans	Sampled audit of course plans	Annual

The questions to ask yourself

The following questions extend the indicators and serve for positioning. They are best answered as a group, requiring evidence for every affirmative answer, and noting disagreements instead of smoothing them over.

STRATEGY AND COURSE

1. Is there a clear digital education strategy, written down and communicated to everyone involved?
2. Is this strategy translated into a dated and funded roadmap, or does it remain a text with no follow-up?
3. Are the priorities ranked, or is everything presented as equally important?

AI USE POLICY

4. Do you have an AI use policy specifying what is permitted, prohibited or conditional?
5. Is this policy revised at regular intervals and really applied, or is it an old memo that people work around?
6. Does it provide alternatives for the activities from which AI is deliberately excluded?

BODIES AND AI GOVERNANCE

7. Does a multidisciplinary body steer AI, with a known membership, a defined rhythm and accessible minutes?
8. Does this body have a risk map that is kept up to date?
9. Are the body's decisions recorded in such a way that they can be found and explained later?

ROLES AND RESPONSIBILITIES

10. Are the roles clear between senior management, IT, data protection and teaching support?
11. For routine decisions, is it known who prepares, who decides, who is consulted and who is informed?
12. Does a tool request easily find the right contact, or does it get lost in the vagueness?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

STAKEHOLDER PARTICIPATION

13. Do educators take part in defining the rules that concern them?
14. Are students consulted, and do their opinions really weigh on decisions?
15. Does central coherence leave the faculties a margin of discretion suited to their contexts?

TOOLS, DATA AND TRANSPARENCY

16. Do the choice, maintenance and withdrawal of tools rest on explicit, documented criteria?
17. Is data protection built in ahead of decisions, and not checked after the fact?
18. Is it known where learning data is hosted, particularly for AI tools?
19. Is transparency about AI use required and traced, in courses as well as in institutional outputs?

STEERING, EFFECTS AND CROSS-CUTTING REQUIREMENTS

20. Do you monitor regular progress indicators, and are they really used to decide, or do they remain decorative?
21. Do you measure the effects of your decisions, beyond the volume of your activities?
22. Are accessibility and Universal Design for Learning among your non-negotiable requirements?
23. Is digital sobriety, including the footprint of AI use, among your stated orientations?
24. Would your governance withstand the departure of the people who run it today?

A frank answer to these questions is worth more than a good score. It shows where to direct the effort, and that is precisely what governance is supposed to make possible. The next chapter leaves the ground of the foundations for the first floor of the building, the tool portfolio and infrastructure, whose coherence depends directly on the decisions taken here.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P2 · DOMAIN 2

CHAPTER

3

Tool Portfolio and Infrastructure

CHAPTER MAP · FOR A QUICK READ

Why this domain matters. The tool portfolio and the infrastructure are the load-bearing structure: this is where strategy meets everyday life. Without reliable, simple and secure access to tools, the best pedagogical intentions remain theoretical.

THE ROAD TO MATURITY, FROM 0 TO 4



KEY DELIVERABLES

- Living catalogue of tools
- Documented integrations (SSO)
- Content accessible by default
- Status page and incidents
- Data hosting register
- Sandbox and exit plans

ANTI-PATTERNS TO AVOID

- Tool proliferation
- Accessibility left until the end
- Vendor lock-in
- The illusion of free

CROSS-CUTTING REQUIREMENTS, NEVER SUSPENDED

Accessibility | Data protection | Responsible AI

THE KEY IDEA

A mature portfolio can be recognised by its calm: knowing what you use, where the data lives and how you would change.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

3.1 Why this domain matters

If governance is the ground on which everything rests, the tool portfolio and the infrastructure are the load-bearing structure. This is the domain where strategy meets everyday reality. An institution can proclaim the finest pedagogical intentions. As long as educators and students do not have reliable, simple and secure access to the tools they need, those intentions remain theoretical.

It is also the most visible domain, and the one judged most immediately. A strategy is read once a year, at best. Infrastructure is put to the test every day. When the platform goes down the day before an exam, when a tool denies a student access, when a lecture video has no subtitles, the institution's digital maturity is measured live. Many of the judgements made about an institution's digital provision, by its users and by outsiders alike, are formed here, in the concrete experience of the tools.

We must nevertheless guard against a common confusion, which would be to reduce this domain to a matter of buying software. Having tools is not enough, and piling them up even less so. What makes for maturity is the coherence of a whole: tools chosen for good reasons, able to communicate with one another, accessible to every audience, hosted under controlled conditions, and which you know how to develop or withdraw without breakage. Infrastructure is the material condition of pedagogical freedom.

3.2 Understanding this domain

What the tool portfolio and infrastructure cover

Behind this rather austere name lie two linked realities. First, the portfolio is the full set of digital tools made available for teaching and learning. The learning platform is its heart, around which revolve the tools for videoconferencing, assessment, content production, collaboration and, now, artificial intelligence. Second, the infrastructure is the technical base that holds it all together: the identity systems that recognise users, the networks, the storage spaces, the backups. You can think of the portfolio as the rooms of a house, and of the infrastructure as the plumbing and electricity that make them habitable.

Lastly, this domain covers the rules that govern the whole, that is, the way in which you decide to add a tool, maintain it or abandon it. Without these rules, the portfolio becomes an accumulation. And it is precisely this accumulation that poses the first problem.

The learning platform, heart of the portfolio

Among all the tools, the learning platform holds a place of its own. It is the space where courses are posted, where instructions and assignments are exchanged, where the traces of

© Jean-François Van de Poël · CC BY-NC-SA 4.0

activity are kept. Many other tools connect to it, which makes it the portfolio's centre of gravity (Brown, Dehoney, & Millichap, 2015). Its reliability and ease of use therefore weigh more heavily than those of any peripheral tool. A slow or confusing platform discourages the best uses, whereas a clear platform frees up time for pedagogy (Bates, 2019; EDUCAUSE, 2024).

Choosing a platform, or changing one, is among the most structuring decisions in the domain, and among the hardest to undo. It commits the institution for years, draws on deep-rooted habits and determines how everything else is integrated. A few questions are worth asking before committing. Does the platform comply with interoperability standards, so that it can host other tools without makeshift fixes? Does it allow the data to be retrieved easily, on the day you want to change? Is it accessible to students with disabilities? Does it include artificial intelligence features and, if so, do you know how they process data?

We must also be careful about expecting the platform to solve problems that are not its own. A tool, however good, replaces neither a strategy nor support. The platform is a shared foundation; the pedagogical response is built on top of it. The most mature institutions treat it as a stable, unobtrusive infrastructure on which a diversity of practices can flourish, rather than as the showcase of their modernity.

The paradox of abundance

You might think that the more tools an institution offers, the more advanced it is. The opposite is often true. A multiplication of undocumented tools generates security risks, hidden costs, inequalities of access and, in the end, mistrust. When three teams use three different solutions for the same task, nobody knows any longer which one is official, which one protects the data, which one will still be there next year. This phenomenon is known as "shadow IT", meaning all the tools used outside the institutional framework, in complete good faith but without oversight.

Maturity is therefore measured by the quality of the sorting. A mature portfolio is often leaner than you would imagine, because every tool in it has a clear reason for being there, an identified owner and a sheet that says what it does, what data it processes and how it fits with the others. To choose is also to give things up, and a good portfolio stands by what it has given up.

How tools talk to each other: interoperability

The word is intimidating, but the idea is simple. Interoperability is the ability of tools to communicate with one another without the user having to notice. Three technical notions are worth explaining, because they come up constantly. Single sign-on, often called SSO, lets you log in to every tool with one set of credentials, instead of remembering a password for each service. The LTI standard, maintained by an international consortium, allows an external tool to plug cleanly into the learning platform, sharing the right courses and the right grades with no re-entry of data (1EdTech, 2019). An application programming interface, or

© Jean-François Van de Poël · CC BY-NC-SA 4.0

API, is a connection point that allows two pieces of software to exchange data in a regulated way.

Why do these notions matter to a non-technical audience? Because their absence is paid for in daily friction. Without single sign-on, passwords and requests for help multiply. Without integration standards, every tool becomes an island, and the data remains trapped in silos that do not talk to each other. An interoperable infrastructure, by contrast, can be recognised by a discreet but telling sign: very few support tickets concern access problems, because things connect simply.

Accessibility, designed in from the start

A tool or a piece of content is only useful if it reaches everyone. Digital accessibility means designing for the diversity of users from the outset, rather than correcting after the fact for a few people. The approach known as UDL, for Universal Design for Learning, proposes offering several ways of accessing information and of expressing oneself from the start (Meyer, Rose, & Gordon, 2014; CAST, 2024). For online content, a set of international guidelines, the WCAG, provides precise reference points on contrast, keyboard navigation and text alternatives to images (World Wide Web Consortium, 2023).

In practice, this translates into concrete actions: reliable subtitles on videos, documents that a screen reader can read, course templates already designed to be accessible. One detail deserves emphasis, because it changes the logic of the domain. Accessibility must be a default characteristic of the portfolio. An environment that is technically very advanced, but leaves some students behind, remains immature. In many countries it is also a legal obligation, which only reinforces a requirement that is first of all ethical.

Where the data lives: hosting and sovereignty

Every tool processes data, and the question of where that data is hosted is not a secondary one. Knowing where learning data is stored, under which jurisdiction and with what safeguards, is an integral part of the domain. The exploitation of this data, beyond its mere storage, raises ethical questions that research on learning analytics has mapped out extensively (Slade & Prinsloo, 2013; Ferguson, 2012). The European legal framework, the GDPR, and its Swiss equivalent, the new Federal Act on Data Protection (nFADP), set clear requirements for minimisation, purpose and security. Tools hosted outside the European or Swiss area call for particular vigilance, because they may be subject to foreign rules that offer less protection.

Sovereignty is a matter of control. The point is to keep a hold on data that involves people, and to be able to give a simple answer to a simple question: if this vendor disappeared or changed its terms, what would become of our data? This concern takes on particular importance with artificial intelligence, because some services send teaching content to distant servers for processing. Thinking about it before deploying is part of a mature infrastructure.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Continuity, backup and reversibility

A good portfolio is also judged by its ability to withstand outages and change. Continuity requires regular, tested backups, together with a plan setting out what you do when a service fails at the wrong moment. Reversibility, a less familiar term, refers to the possibility of leaving a tool without losing everything. Before adopting a solution, a mature institution asks itself how it will get out of it when the day comes, and requires that its data remain retrievable and transferable. Thinking about the exit at the moment of entry avoids the uncomfortable situation in which you remain the prisoner of a tool because leaving it has become too costly.

Artificial intelligence in the portfolio

Artificial intelligence does not form a separate compartment. It seeps into existing tools, in the form of automatic correctors, content generators and assistants built into the learning platform. This diffuse presence is both a promise and a risk. A promise, because these features can lighten repetitive tasks and support learning. A risk, because they process sensitive data and can be confidently wrong.

Three reflexes structure a controlled use. Offer safe environments, where AI is framed rather than left to individual improvisation. Document every AI tool with a brief sheet that says what data it uses and where that data goes, readable in two minutes. And always keep an AI-free alternative, so as not to impose a technology on those who cannot or do not wish to use it. The principle underlying these reflexes is demanding but clear: there is no pedagogy of AI without a technical base worthy of trust (UNESCO, 2023; Holmes, Bialik, & Fadel, 2019). Providing an AI tool without transparency about its data amounts to transferring a legal risk to the users who rely on it.

User experience, the final arbiter

In the end, the maturity of this domain is measured by something very concrete: the daily experience of those who use the tools. You can have the best-kept catalogue and the most elegant integrations. If the educator loses time at every login and the student cannot find their course, the portfolio has failed where it counts. Friction is the silent enemy of infrastructure. With no spectacular crisis, it discourages use, day after day.

This is why it is useful to listen to users regularly, alongside the technical indicators. A few simple questions, put to educators and students, often say more than a dashboard. Do they easily find what they need? Do they understand which tool to use for which task? Do they know whom to turn to when there is a problem? The answers reveal frictions that usage statistics leave in the shadows.

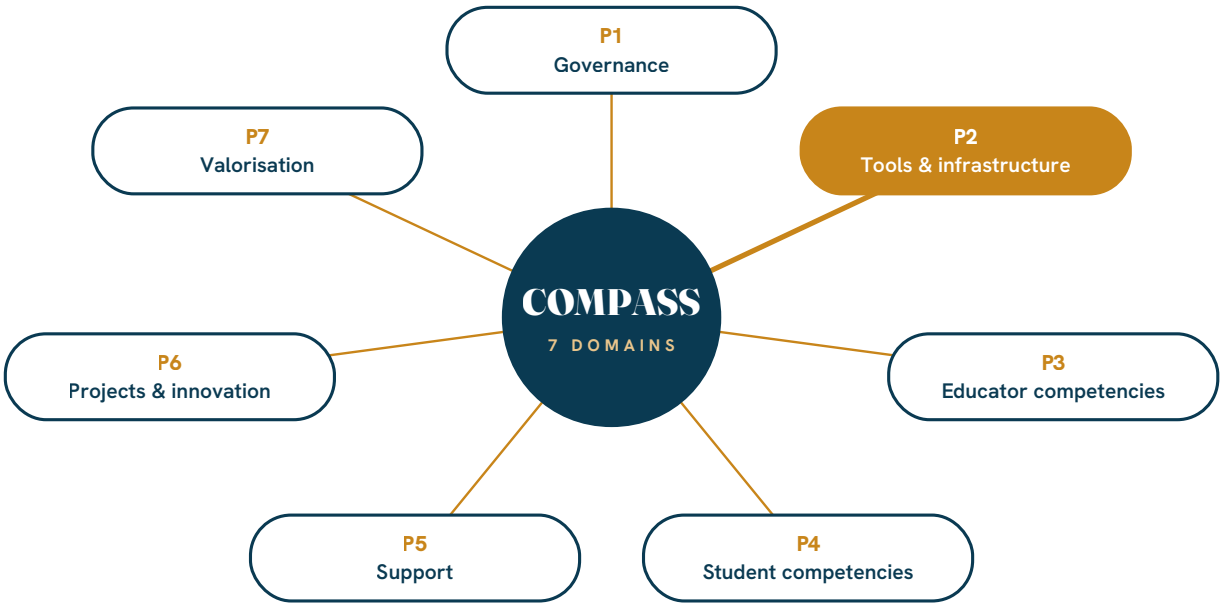
This attention to experience ties in with accessibility, because friction is not evenly distributed. What is merely an irritation for some becomes an insurmountable obstacle for others. A mature portfolio therefore cares as much about fluidity as about richness, and takes the

© Jean-François Van de Poël · CC BY-NC-SA 4.0

view that a tool nobody manages to use does not really exist. The most advanced technology is worth only the use it makes possible, and that use is decided in very ordinary details.

Digital sobriety and the link with the other domains

One often forgotten dimension deserves its place here: sobriety. Multiplying tools, oversizing capacity and storing without end have a financial and environmental cost (The Shift Project, 2018). Rationalising the portfolio also lightens that footprint, and artificial intelligence, which is resource-hungry, makes this attention more necessary still. Sobriety is a discipline of choice.



The tool portfolio (P2) carries the six other COMPASS domains in concrete terms.

Finally, this domain is worth only what it makes possible elsewhere. Without reliable infrastructure, competency development remains a dead letter, support wears itself out repairing avoidable breakdowns, and innovation runs up against unstable foundations. The tool portfolio is there to serve the other domains.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

3.3 The maturity scale applied to the tool portfolio



The five maturity levels, from the lightest (absent) to the deepest (mature).

As with governance, it is useful to walk through the five levels for this specific domain, so as to have a common language.

At level 0, the portfolio is absent as a coherent whole. Tools exist, but everyone chooses them alone, with no inventory and no rules. The infrastructure holds together out of habit, with no documentation and no organised backup. At level 1, you enter the pilot stage. A central platform is in place and a few integrations work, but the whole depends on the knowledge of a few people and shadow IT thrives alongside. At level 2, the approach is partial. A catalogue exists, single sign-on covers the main tools, accessibility is taken into account here and there, but unevenly, and usage sheets are missing for part of the portfolio.

At level 3, the portfolio is deployed. It is documented, the integrations are clean and standardised, accessibility is handled by default, the data is hosted under known conditions, and incidents are managed according to a procedure. The governance of the domain works, with entry and exit criteria. At level 4, finally, the portfolio is mature. It is coherent, accessible, evaluated and continuously improved. Reversibility is planned for every tool, a sandbox makes it possible to evaluate new tools without risk, every AI tool is documented and comes with an alternative, and the whole survives the departure of the people who administer it. A mature institution knows what it uses, why, and how it would change.

It is common to be advanced on one aspect and behind on another, for example to have a level 3 platform and level 1 accessibility. Spotting these internal imbalances guides effort far better than an overall score.

3.4 The expected deliverables

A well-kept portfolio produces concrete objects, which can be checked and shown.

DELIVERABLE	THE PITFALL TO AVOID
A living catalogue of tools	A mere static binder that nobody consults is of no use to anyone.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

DELIVERABLE	THE PITFALL TO AVOID
Documented integrations	Without them, breakdowns become irreparable and every tool keeps its data to itself.
Content accessible by default	Making things accessible "after the fact" amounts to excluding some students from the outset.
Incident management and a status page	Without clear information, rumour takes the place of the actual state of the service.
A hosting and protection register	Without it, you do not know where the data lives or which safeguards apply.
A supervised sandbox	Without criteria or a deadline, the trial turns into impulsive adoption.
Exit and migration plans	Reversibility that is merely hoped for costs dearly on the day of departure.
For every AI tool, a sheet and an alternative	Without them, the legal risk shifts silently onto users.

A living catalogue of tools. This is a searchable inventory in which every tool is described by a usage sheet. The sheet says what the tool is for, who is responsible for it, what data it processes and how it fits with the others. Living here means consulted and kept up to date.

Documented integrations. Single sign-on, standardised connections between the platform and external tools, and automated data exchanges are described and maintained. This documentation looks like thankless work, but it is what makes breakdowns repairable and changes possible.

Content accessible by default. Course templates designed for accessibility, subtitles available without any special request, documents readable by assistive technologies. Accessibility becomes a given.

Incident management and a status page. When a service runs into difficulty, information travels quickly and clearly to the users concerned. A status page, updated in real time, is better than rumours and defuses anxiety.

A data hosting and protection register. For every tool, you know where the data lives and which safeguards apply. An impact assessment is carried out when the risk is high, particularly for AI tools.

A supervised sandbox. A space where a new tool, artificial intelligence included, can be tried out under safe conditions, with clear entry and exit criteria and a deadline. The sandbox turns curiosity into a reasoned decision.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Exit and migration plans. For the important tools, you know how to leave without losing either the data or the work of educators and students. Reversibility is written down.

For every AI tool, a data sheet and an alternative. A brief sheet, readable in two minutes, and a documented AI-free option. These two objects alone sum up the maturity of the domain where artificial intelligence is concerned.

As in the previous chapter, these deliverables are worth what their real use is worth. An impeccable catalogue that nobody consults protects against nothing.

3.5 Setting up a portfolio that holds

Having the right deliverables is not enough. You need ways of working that keep them alive. This section describes how to maintain a portfolio over time.

Keeping the catalogue alive

A catalogue has value only if it is used and kept up to date. Two conditions help it stay that way. The first is to make it truly useful to those who consult it, by putting in what they are really looking for, namely the recommended tool for a task, its limits and its alternatives. A catalogue designed to be of service is consulted, therefore corrected, therefore reliable. The second is to designate, for every tool, a person responsible for its sheet. Without this named responsibility, the information goes out of date in silence.

Deciding which tools come in and which go out

A tool has a life cycle: it enters the portfolio, it lives there, and one day it leaves. Each of these stages is better founded on explicit criteria than on the enthusiasm of the moment. At entry, you examine pedagogical usefulness, data protection, accessibility, interoperability and sustainability. During the tool's life, you monitor its actual use and its incidents. At exit, you organise the migration of data and support for users, so that a withdrawal is not experienced as an abrupt loss. The decision to withdraw a tool is often harder than the decision to adopt it, because it disturbs habits. That is precisely why it must rest on criteria known in advance.

The sandbox, for trying things out without risk

The wish to try something new is legitimate, and suppressing it only feeds shadow IT. The sandbox meets this need in a disciplined way. It is a bounded space where a tool can be tested under real but protected conditions, with volunteer participants, non-sensitive or anonymised data, a deadline and success criteria defined from the start. At the end of the period, you decide with full knowledge of the facts, you roll out or you stop, and you document the reason. This arrangement is especially valuable for artificial intelligence, whose promises are many and whose risks are poorly understood. It turns fascination into evaluation.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Working with vendors

Part of the portfolio comes from external providers, and the quality of the relationship with them weighs on the maturity of the domain. Three requirements deserve to be set out at the contracting stage. Data portability, so that you can leave without losing everything. Transparency about hosting and processing, particularly where artificial intelligence is involved. And compliance with accessibility, which is checked before the purchase rather than after the complaints. A vendor provides a service, and the policy remains the institution's. Keeping this distinction in mind avoids a dependency you merely endure, in which a product's default settings end up standing in for decisions.

Open educational resources and open-source solutions offer, in many cases, additional room for manoeuvre. They are not always the right answer, but they deserve consideration, because they reduce dependency and encourage sharing between institutions (Friesen, 2009). The choice between a commercial solution and an open one is settled in the light of needs, available skills and sustainability over time.

Everyday security and protection

Security is not a subject reserved for specialists, because its failures affect everyone. A weak password, access not properly revoked after someone leaves, or a booby-trapped attachment is enough to compromise sensitive data. The portfolio domain therefore carries a share of responsibility for everyday protection, alongside the specialist services.

A few simple practices make a great difference. Rigorous access management, so that everyone has the rights they need, no more and no less, and so that those rights are withdrawn at the right time. Raising the awareness of users, who form the first line of defence against attempted fraud. Regular updating of tools, because known, unpatched vulnerabilities are the most frequent point of entry for incidents. And incident preparedness, because what matters most is being ready to respond.

Data protection meets security here, without being reducible to it. Security prevents unauthorised access. Data protection governs authorised access itself, by limiting what you collect and what you do with it. The two reinforce each other. A mature portfolio treats these matters as a shared routine, built into everyday decisions, rather than as a matter for experts who are called in after the damage is done. It is this normalisation of good reflexes, more than the sophistication of the arrangements, that gives an institution lasting protection.

Total cost and financial sustainability

The price of a tool does not come down to its licence. On top of the licence come hosting, maintenance, integration, user training and support time. The term total cost of ownership refers to this sum, which is often far higher than the list price. Reasoning in terms of total cost avoids false economies, such as the free solution that ends up taking whole days of support, or the cheap tool that nobody uses for want of support in adopting it.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

The financial sustainability of the portfolio therefore deserves monitoring of its own. A portfolio that only ever grows ends up weighing on the budget without anyone noticing, because each addition seems modest taken on its own. Reviewing the portfolio regularly, to remove redundant or neglected tools, frees up resources just as much as it simplifies users' lives. Artificial intelligence adds a new variable here, because its usage costs can rise quickly with volume, and deserve to be anticipated rather than discovered on an invoice.

This budgetary discipline ties in with the sobriety mentioned above. Spending less and consuming fewer resources often go hand in hand, and both argue for a lean portfolio in which every element justifies its place. Here again, maturity can be recognised by relevance.

Supporting a change of tool

Changing a tool, or withdrawing one, always disrupts habits, and habits weigh heavily in teaching. An educator who has built their courses around a tool does not give up months of work with a light heart. Ignoring this human dimension is the most frequent cause of failed migrations, well ahead of technical difficulties.

Supporting a change therefore means giving it due care and time. You give sufficient notice, you explain the reasons, you show what the new solution brings, and you give practical help in transferring what already exists. A period during which the old and the new tool coexist for a while softens the transition. The support of colleagues who have already made the move is often worth more than a manual. This care is the condition for a change decided at the top to be truly reflected in practice, instead of feeding resentment and workarounds.

3.6 The anti-patterns

Some configurations recur often enough to deserve a name. Spotting them makes it possible to act before the problem takes hold.

ANTI-PATTERN	THE REMEDY
Proliferation	An honest inventory, followed by deliberate sorting and entry criteria.
The tool chosen without criteria	Explicit entry criteria before any adoption.
Accessibility left until the end	Build it into the selection criteria and the course templates, upstream.
Data silos	Integration standards and single sign-on.
No backup and no continuity	Prepare in calm conditions: continuity plan and tested backups.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

ANTI-PATTERN	THE REMEDY
AI deployed without transparency	A data sheet readable in two minutes for every tool.
Vendor lock-in	Require portability from the contract onwards and keep a credible alternative.
The dead catalogue	Design it for those who will read it, otherwise it ends up in the archive.
The illusion of free	Examine what happens to the data and include the hidden cost in the evaluation.

Proliferation. Tools pile up with no inventory and no criteria, each team adopting its own. Shadow IT thrives, costs are scattered and security becomes unreadable. The way out is an honest inventory, followed by deliberate sorting.

The tool chosen without criteria, then withdrawn in a panic. A solution is adopted on impulse or under the pressure of novelty, then abandoned when a problem arises. The cost is both financial and human, because users lose their bearings. Explicit entry criteria prevent this waste.

Accessibility left until the end. You deploy first and make things accessible afterwards, if time allows, which amounts to excluding some students from the outset. The remedy is to build accessibility into the selection criteria and the course templates, upstream.

Data silos. For want of interoperability, every tool keeps its data to itself, and the same information is re-entered from one system to the next. Integration standards and single sign-on break down these silos.

No backup and no continuity. Everything works until the day an outage occurs, with no plan and no tested backup. Continuity is prepared in calm conditions.

Artificial intelligence deployed without transparency. An AI tool is made available without anyone knowing what data it processes or where that data goes. The legal risk shifts silently onto users. The data sheet, readable in two minutes, is the antidote.

Vendor lock-in. The institution locks itself into a product that becomes too costly to leave, and the terms change without its being able to react. Requiring data portability from the contract onwards, and keeping a credible alternative, preserves freedom of choice.

The dead catalogue. An impeccable inventory exists, but nobody consults it because it is of no service. Documented is not a synonym for useful. A catalogue is designed for those who will read it, otherwise it ends up in the archive.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

The illusion of free. A tool with no apparent cost is widely adopted, until the day you discover that payment is made in personal data, in advertising or in dependency. Free is never entirely free, and its price can be read in the terms of use. This trap is common with consumer services diverted towards teaching, and with certain AI tools whose business model remains opaque. You guard against it by examining what happens to the data before adopting, and by including this hidden cost in the evaluation, on the same footing as a list price.

3.7 A possible trajectory

Let us imagine a higher education institution with an abundant but disorderly portfolio. At the outset, it stands at level 1. The central platform works, but alongside it some ten tools coexist, adopted by different teams, with no inventory, and the accessibility of content is left to each person's goodwill. A first snapshot reveals the extent of shadow IT and the absence of usage sheets.

Rather than rationalising everything at once, senior management chooses two priorities: an inventory accompanied by sheets, and accessibility by default. Within a few months, a catalogue comes into being, every tool receives a sheet and a responsible person, and duplicates are gradually withdrawn after consultation. Accessible course templates are made available, which reduces individual requests for adaptation. A small sandbox is opened to supervise trials of AI tools, which until then had been unregulated. At the next reassessment, the domain reaches level 3 on the essentials. Without buying any new tools, the institution has put those it had back in order, and the support workload has fallen of its own accord.

3.8 What accomplished practice looks like

In an institution that is mature in this domain, the catalogue is alive and truly consulted, because it helps people choose. The integrations are clean, single sign-on works, and support tickets about access problems are rare. Accessible content is available without any special request, and course templates build in accessibility from the start. Incidents are infrequent and well managed, with rapid communication to the users concerned.

Where artificial intelligence is concerned, the policy is clear, safe environments exist, and every tool carries a data sheet readable in two minutes, together with a documented alternative. A sandbox produces reasoned decisions, deployment or justified discontinuation, rather than impulsive adoptions. A tool's departure is handled cleanly, with no loss of data or work. Above all, the whole no longer depends on the memory of a few administrators. You know what you use, why, where the data lives and how you would change. It is by this calm that a portfolio that has reached maturity can be recognised.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

3.9 Where to begin, depending on your starting point

The way forward depends on the level reached. Three scenarios cover the essentials.

If you stand at level 0 or 1, the reflex to avoid is wanting to rationalise everything at once, at the risk of antagonising the teams. Begin with an honest inventory of what is really used, including outside the official framework, with no intention of penalising anyone. Then give the main tools a sheet and a responsible person, and make available course templates that are accessible by default. These two workstreams, the documented inventory and built-in accessibility, produce a rapid and visible effect, and prepare the ground for the rest.

If you are at level 2, your difficulty lies in unevenness. Part of the portfolio is well kept, the rest is not. The effort then goes into generalisation. Extend single sign-on to the tools that still escape it, complete the missing sheets, open a sandbox to supervise trials, particularly those involving artificial intelligence, and build a clear register of data hosting. At this stage, comparing practices from one faculty to another often reveals tried and tested solutions that simply need to be shared.

If you are at level 3, the challenge becomes one of lasting and anticipating. Write down reversibility for every important tool, so that you never depend on a vendor to the point of no longer being able to leave. Measure the real effects of the portfolio, beyond its use. Build sobriety into your criteria, by questioning oversized capacity and endless storage. And compare your successive snapshots, because it is this continuity that distinguishes a portfolio that is maintained from one that has merely been assembled.

3.10 The case of small institutions

All this may seem designed for large institutions with well-staffed technical services. Yet it applies to small ones too. A small higher education institution does not need a sophisticated catalogue system. A shared spreadsheet, kept up to date, which lists the tools, their owners and their data, plays that role perfectly well. Single sign-on and a few accessible templates are within its reach, often through the same solutions as the large institutions use, pooled within networks.

The risk specific to small institutions lies elsewhere. There the infrastructure frequently rests on a single person, who knows everything but has written nothing down. The day that person leaves, the memory of the portfolio goes with them. This is precisely where documentation, even light documentation, and reversibility take on their full value. A small institution that writes down where its data lives and how its tools connect protects itself better than a large one that relies on the expertise of a few individuals.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

3.11 Indicators and questions to ask yourself

This final section brings together what you need to evaluate the domain and feed the discussion. It aims to be exhaustive. Not every element will carry the same weight in every institution, but none should be set aside without some thought. Use the indicators to measure and to track over time, and the questions to position yourself honestly on the scale from 0 to 4.

The indicators to track

CATALOGUE AND SHEETS

- the existence of a catalogue of tools, and how often it is actually consulted;
- the share of tools with a complete usage sheet, including owner and data processed;
- the number of tools used outside the official framework, identified during inventories.

INTEGRATION AND ACCESS

- the share of tools covered by single sign-on;
- the share of tools integrated according to documented standards;
- the volume of support tickets concerning access or login problems.

ACCESSIBILITY

- the share of content and course templates that comply with accessibility guidelines;
- the availability of subtitles on teaching videos;
- the time taken to process requests for adaptation, and how these requests change over time.

DATA, HOSTING AND CONTINUITY

- the share of tools for which the data hosting location is known and documented;
- the share of tools that underwent an impact assessment before deployment;
- the existence of tested backups, and the date of the last restoration test;
- the share of important tools with an exit and migration plan.

ARTIFICIAL INTELLIGENCE IN THE PORTFOLIO

- the share of AI tools accompanied by a data sheet readable in two minutes;
- the share of AI uses for which an AI-free alternative is documented;
- the existence of a supervised sandbox, and the number of reasoned decisions it has produced.

SOBRIETY AND COST

- the change in the number of tools in the portfolio, upwards or downwards;
- the identified total cost of the portfolio, including licences, hosting and maintenance;
- the share of capacity and storage actually used, compared with what is provisioned.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

The five key indicators

Among all the indicators of this domain, five deserve to be tracked first. Annex C gives the full catalogue, with the definition, calculation, data source, frequency and owner of each indicator. The targets are benchmarks to adapt to your context.

KEY INDICATOR	TARGET	WHERE TO FIND THE DATA	FREQUENCY
Catalogue coverage Share of the digital teaching tools and services in use that appear in the public catalogue, with status, uses, limits and support.	100% of tools listed	Internal audit of the catalogue, inventory of licences and tools	Biannual
"Data & AI" sheets published AI DATA Share of catalogue tools with an up-to-date "data & AI" sheet (data processed, retention, transfers, AI used, risks, alternatives).	≥ 95% up-to-date (< 12 months)	Institutional website, tool register	Biannual
SSO/MFA coverage Share of critical tools accessible through single sign-on with multi-factor authentication.	100% of critical tools	IT department, identity directory and service configuration	Biannual
Captioned media (verified) ACCESSIBILITY Share of institutional video content with captions reviewed after automatic generation.	≥ 90%	Video platform	Biannual
LMS/video uptime Time during which the LMS and the video conferencing service are actually available, excluding announced maintenance.	≥ 99.5% uptime	Monitoring tool (monthly report)	Monthly

The questions to ask yourself

It pays to answer these questions as a group, requiring evidence for every affirmative answer, and recording disagreements rather than smoothing them over.

CATALOGUE AND COHERENCE

1. Is the tool portfolio listed in a catalogue that is consulted and kept up to date?
2. Does every tool have a usage sheet stating its owner and the data it processes?
3. Do you know which tools are used outside the official framework, and why?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

INTEGRATION AND ACCESS

4. Are the main tools accessible through single sign-on?
5. Do the integrations rest on documented standards rather than on makeshift fixes?
6. Are access problems rare, or do they take up a large share of support?

ACCESSIBILITY

7. Is accessibility among the criteria for choosing a tool, upstream?
8. Is teaching content accessible by default, without any special request from users?
9. Are course templates designed for accessibility made available to educators?

DATA AND HOSTING

10. Do you know, for every tool, where the data is hosted and under which jurisdiction?
11. Is an impact assessment carried out before deploying high-risk tools, particularly AI tools?
12. Are data protection requirements set out at the contracting stage with vendors?

CONTINUITY AND REVERSIBILITY

13. Do regular, tested backups protect the important data?
14. Is there a plan for outages of critical services, and planned communication to users?
15. For the important tools, do you know how to leave without losing the data or the work produced?

ARTIFICIAL INTELLIGENCE

16. Is every AI tool documented by a data sheet that can be read quickly?
17. Is an AI-free alternative planned and documented for the uses concerned?
18. Do you have a supervised sandbox for evaluating new tools before rolling them out?

VENDORS, SOBRIETY AND SUSTAINABILITY

19. Is data portability guaranteed by contract, to avoid lock-in?
20. Are open solutions and open educational resources considered where they are suitable?
21. Is the portfolio regularly relieved of redundant or unused tools?
22. Is the total cost of the portfolio known and tracked, beyond the price of licences alone?
23. Is digital sobriety, including the footprint of AI uses, taken into account in your choices?

EXPERIENCE AND ADOPTION

24. Is knowledge of the portfolio shared, or does it rest on the memory of a few people?
25. Do users easily find the right tool for a given task, and do they know whom to turn to in case of difficulty?
26. Do you regularly gather the views of educators and students on the tools, beyond the technical indicators alone?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

27 Is a little-used tool examined, to distinguish a lack of support from a tool that should be withdrawn?

28 Does user experience truly weigh in your decisions, or does it remain a side issue?

A frank answer to these questions is worth more than a good score. It shows where to direct effort, and that is exactly what a mature infrastructure is supposed to make possible. Above all, one simple idea runs through this whole chapter and is worth remembering. A portfolio is judged by its coherence, its reliability and the trust it inspires. A few tools that are well kept, well integrated and well understood are better than an abundance nobody has under control. The best infrastructures make themselves forgotten, because they work, and it is precisely this discretion that frees up energy for pedagogy.

The next chapter leaves the foundations and the structure for those who inhabit them, turning to educator competencies and the schemes that develop them. For tools, however good, are worth only what people do with them.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P3 · DOMAIN 3

CHAPTER

4

Educator Competencies

© Jean-François Van de Poël · CC BY-NC-SA 4.0

CHAPTER MAP · FOR A QUICK READ

Why this domain matters. Teaching in the digital era draws on competencies that are both professional and digital. A framework without a scheme to develop it remains an intention, and a training offer without a framework lacks direction. What counts, in the end, is the number of practices that have genuinely been transformed.

THE ROAD TO MATURITY, FROM 0 TO 4



KEY DELIVERABLES

- Competency framework adopted
- Self-positioning scheme
- Competency mapping
- Reference points on AI competencies
- Structured development pathway
- Actively facilitated communities of practice
- Recognition schemes
- Evaluation of effects

ANTI-PATTERNS TO AVOID

- Competency reduced to tools
- The framework imposed, never owned
- Self-assessment with no follow-up
- Mapping turned into surveillance
- The one-off training with no follow-up
- Preaching to the converted
- Measuring satisfaction rather than effect
- Effort that goes unrecognised

CROSS-CUTTING REQUIREMENTS, NEVER SUSPENDED

Accessibility | Data protection | Responsible AI

> **THE KEY IDEA**
>
> Mature educator competencies rest on a pedagogical judgement that the institution is able to describe, and on professional development that is measured by transformed practices far more than by satisfaction or by the number of people trained.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

4.1 Why this domain matters

This chapter brings together two domains that the previous version of the model treated separately: professional development and educators' digital competencies. I merged them for a simple reason. Designing an activity, assessing with integrity in the AI era, creating an inclusive environment, protecting students' data: none of these competencies is purely digital, and none is foreign to the digital. They are teaching competencies, both professional and digital. Separating them from what makes them grow meant describing the same reality twice, once as a target and once as a means.

The domain is therefore organised into two strands. The first, "Framework and state of competencies", describes what an educator must be able to draw on and allows everyone to situate themselves, by means of a competency framework, self-positioning and a mapping. The second, "Professional development and recognition", brings together what the institution puts in place to make these competencies grow, namely the training offer, individual support, communities of practice, recognition and the monitoring of transfer into practice. A framework without a scheme to develop it remains an intention, and a training offer without a framework lacks direction.

Each strand is placed on the maturity scale, and the domain score is the average of the two. The gap between them is diagnostic information in itself. When the development schemes are ahead of the competencies observed, the offer is rich but competencies are stagnating, and attention should turn to participation, transfer into practice and recognition. When competencies are ahead of the schemes, they rest mainly on individual initiatives, and the challenge is to structure the offer and the recognition so that they last.

The sections that follow keep this organisation. Whenever the content is divided between the two strands, the first comes before the second.

The first three chapters laid the foundations and the structure. The time has now come to talk about the people who inhabit them. A crystal-clear strategy and an exemplary tool portfolio produce nothing by themselves. It is the people who teach and who support teaching who turn these means into real learning. Professional development is the strand that connects the ecosystem to practice. Without organised upskilling, tools remain underused and policies never become behaviours.

This chapter looks at what these efforts seek to build: educators' digital competencies. This is where everything converges. A clear strategy, a reliable tool portfolio and a carefully designed training offer only make sense if they translate, in the end, into educators who are able to use digital technology in a relevant way in the service of learning.

The two strands are distinct, and the nuance is worth setting out from the start. Professional development refers to the scheme that helps teams progress, namely the offer, the com-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

munities of practice and the recognition. Competencies, for their part, are the target of that scheme. An institution can have a fine training offer and a blurred map of the competencies actually expected and acquired. The first strand therefore deals with the content: what an educator must be able to draw on, how it is described, and how everyone is helped to situate themselves within it and to progress.

A stubborn confusion lies in wait in this domain, the one that reduces digital competency to the mastery of tools. Knowing where to click in a platform is no more a pedagogical competency than knowing how to hold a pen makes a writer. An educator's digital competency combines technical, pedagogical, critical and ethical knowledge, and it is this combination, far more than dexterity, that produces real effects on learning. The arrival of generative artificial intelligence has made this distinction sharper still, by shifting value from mere production towards judgement, validation and purpose.

The issue is less obvious than it seems, because it is easy to confuse activity with effect. An institution can multiply its workshops, display flattering participation rates and believe itself advanced, while nothing has changed in the classroom. This is why the chapter follows a demanding guiding thread: what counts is the number of practices that have genuinely been transformed. A training course that does not change the way people teach or support teaching has missed its purpose, however satisfied the participants were at the time.

This domain concerns two audiences that are too often treated separately. Educators, of course, whose practices are at the heart of the mission. But also the services that support digital learning, whose upskilling determines the quality of the support offered to educators. A support service that does not keep learning remains a prisoner of its reflexes, and ends up holding back the changes it ought to support. Thinking about professional development without including these teams amounts to lighting only half of the picture.

4.2 Understanding this domain

> **STRAND 1** Framework and state of competencies
>
> Competency framework, self-positioning, pedagogical design, assessment in the AI era.

What educators' digital competencies cover

An educator's digital competencies go far beyond personal use of technology. They cover the way of designing activities with digital technology, of assessing, of collaborating, of guiding students towards their own digital autonomy, and of engaging in reflective professional practice. This is a broad set, ranging from the reasoned choice of a resource to the protection of students' data, by way of designing coherent assessment in the era of generative tools.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

This strand also covers an often forgotten dimension, that of shared description. As long as the expected competencies are not named and structured, everyone forms a personal idea of them, and the institution can neither situate itself nor direct the effort. Having a common language for talking about competencies is therefore a prerequisite, and that is the role of a competency framework.

DigCompEdu, a reference framework

One European framework is now the authority for describing educators' digital competencies: DigCompEdu (Redecker & Punie, 2017). It structures these competencies into six areas, from professional engagement and the use of digital resources through to assessment, empowering learners and facilitating their own digital competence. Above all, it offers a progression by levels, from the stage of discovery to that of shared expertise, which allows everyone to situate themselves without judgement and to see a path ahead.

Other international frameworks point in the same direction and can complement this reading, such as the ICT competency framework for teachers proposed at global level (UNESCO, 2018). The value of a framework is that it offers a common map. It prevents the training offer from being built at random, it makes visible the areas that are well covered and those that are less so, and it gives each educator a mirror in which to reflect on their own progression. A framework only has value if it is alive, that is, owned and discussed.

Educator competencies, a mirror of student competencies

One aspect of DigCompEdu deserves to be underlined, because it links this chapter to the next. One of its six areas deals specifically with the educator's ability to develop the digital competence of their students (Redecker & Punie, 2017). In other words, part of an educator's competency consists in knowing how to bring another into being. You cannot guide someone towards a mastery you do not possess yourself, nor pass on a critical view of AI without having exercised it yourself.

This mirror relationship has a practical consequence. Investing in educators' competencies also means investing, indirectly, in those of students, because the former determine the latter. It is also a reminder that the educator, a user of digital technology, is at the same time someone who passes it on, whose stance, precautions and critical sense are transmitted as much as the content is. An institution that forgets this risks training educators who are technically skilled but poorly able to nurture their students' digital autonomy, which would amount to missing the essential point.

Integrating digital technology into pedagogy: TPACK and SAMR

Describing competencies is not enough if we forget what makes them difficult, namely the interplay between technology, pedagogy and disciplinary content. The TPACK model brought out precisely this intersection, by showing that teaching with digital technology means bringing three kinds of knowledge into dialogue: mastery of the tool, pedagogical

© Jean-François Van de Poël · CC BY-NC-SA 4.0

knowledge and knowledge of the discipline (Mishra & Koehler, 2006; Koehler & Mishra, 2009). An educator may well master a tool without knowing how to connect it to their subject, or the reverse. Competency lies where these three dimensions meet.

Another model, SAMR, proposes placing uses of digital technology on a scale running from simple substitution to the redefinition of activities (Puentedura, 2006). It is useful for stepping back, provided it is not read as a hierarchy in which the top would always be preferable. Replacing a task with a digital version is not inferior in itself; everything depends on the pedagogical intention. These models are interpretive grids that help us move beyond the naive idea that adding technology mechanically improves teaching. Competency consists precisely in knowing when digital technology adds something, and when it adds nothing.

Competencies in the era of artificial intelligence

Frameworks such as DigCompEdu were designed before the mass spread of generative artificial intelligence. They remain relevant, but they do not fully cover the new competencies called for by co-agency between human and machine. To fill this gap, I propose in this book a complementary framework, the four-dimensional framework of human-AI competencies (Van de Poël, 2025). Its guiding principle is simple and demanding: the relationship with AI is always led by the human, who retains responsibility for framing, validation and purpose. Research on human-machine collaboration in fact describes this configuration as a symbiosis in which each brings its own resources, with AI processing large volumes of information while the human draws on intuition, moral sense and an understanding of context (Jarrahi, 2018).

This framework distinguishes four dimensions, which are worth presenting one by one. The first, essential conceptual competencies, refers to the disciplinary, methodological and normative foundation against which any output from the machine must be checked. It is the ability to validate the soundness of a line of reasoning, to verify its provenance and to place it in its ethical and regulatory context. Without it, the use of AI is reduced to unchecked delegation, which runs counter to learning. The second dimension, AI capabilities, corresponds to knowledge of what the machine can do, and therefore of what can and cannot be entrusted to it. Knowing that a tool can generate, synthesise or translate, but also that it gets things wrong with confidence, is part of the competency.

The third dimension, AI literacy, groups the professional skills that make it possible to interact with the tool, that is, to configure it, to query it, to interpret its responses and to regulate their effects. Formulating a useful prompt, gauging the level of confidence of a response and documenting the process all belong to this dimension. International AI literacy frameworks converge on these skills and on their critical dimension (Long & Magerko, 2020; UNESCO, 2023). The fourth dimension, finally, distinctive human capabilities, gathers what remains beyond the reach of current algorithms: critical sense, conceptual creativity, empathy and moral judgement. It is these capabilities that connect the use of AI to social and ethical purposes, and that justify the human remaining in control.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

The value of these four dimensions is that they clarify responsibilities and guide the design of training. For an educator, they offer a way of thinking about their own competency in the AI era, by distinguishing what must be validated, what can be delegated, what must be steered technically and what must remain profoundly human. This framework complements DigCompEdu rather than replacing it, by shedding light specifically on the area that AI has made new (Holmes, Bialik, & Fadel, 2019).

The logic of human-AI co-agency

The four-dimensional framework rests on an idea that deserves to be made explicit, that of co-agency. Rather than setting human against machine, or seeing one replace the other, this perspective regards them as two agents with complementary resources, engaged in the same task. The machine excels at processing large volumes of information and at producing quickly; the human brings intuition, moral sense and an understanding of context, and keeps the final decision (Jarrahi, 2018). Competency therefore consists in orchestrating this dialogue, without imitating the machine or submitting to it.

This logic sheds light on the notion of joint regulation. Faced with an output from AI, the educator retains responsibility and regulates, which means that they frame the request, validate the result and integrate it into an intention. Thinking about competency in this way avoids two symmetrical pitfalls: rejection on principle, which deprives us of useful resources, and blind delegation, which abdicates judgement. Between these two extremes, co-agency marks out a demanding but fruitful path, where technology augments human capabilities without replacing them. It is this path that the four dimensions seek to equip, by naming what, in the relationship with AI, belongs to validation, to knowledge of the tool, to technical skill and to distinctly human judgement.

Designing assessment in the AI era, a competency in its own right

Among the competencies that generative AI has made crucial, that of designing assessment holds a special place. When a machine produces a reasoned text, a translation or a summary in a few seconds, some forms of assessment lose their meaning, while others gain in meaning. Knowing how to rethink an assessment so that it measures what really counts, namely reasoning, interpretation and judgement, is becoming a leading educator competency (UNESCO, 2023).

This competency draws on all four dimensions of the four-dimensional framework at once. It requires knowing what the machine can do, so as not to assess tasks that it accomplishes alone. It demands a solid disciplinary foundation, to distinguish what belongs to production that can be automated from what belongs to human judgement. It draws on AI literacy, to anticipate the uses students will make of the tools. And it engages distinctive human capabilities, to design situations that call for creativity, critical thinking or an ethical position. Assessment design thus becomes a place where the whole set of educator competencies in the AI era crystallises.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Competency goes beyond the mastery of tools

We must return insistently to the most common risk in this domain, that of confusing competency with the technical mastery of a tool. This confusion has concrete consequences. It leads to training on buttons rather than on uses, to measuring equipment rates rather than transformations of practice, and to regarding as competent anyone who can open a piece of software. Yet research on educators' adoption of digital technology shows that competency depends far less on technical knowledge than on a combination of beliefs, self-confidence and professional culture (Ertmer & Ottenbreit-Leftwich, 2010).

Mature digital competency presupposes a stance, that of a professional who decides with full knowledge of the facts, keeps a critical eye and always relates the tool to a pedagogical intention. The prevailing discourse, saturated with promises, does not help to cultivate this stance, so strongly does it tend to present every novelty as indispensable (Selwyn, 2016). Developing educator competencies therefore also means arming teams against fascination, by giving them the means to judge for themselves whether a tool is relevant.

Competencies that evolve at different paces

Digital competencies do not all age at the same speed, and this difference in pace deserves attention. Competencies tied to a specific tool go out of date quickly, as updates and software changes come along. More fundamental competencies, such as the ability to verify information, to connect a tool to a pedagogical intention or to design sound assessment, stand the test of time far better. This distinction has a direct consequence for the way competencies are developed.

Staking most of the effort on the mastery of particular tools amounts to running endlessly after novelty, to the point of unending exhaustion. Investing first in durable competencies, namely judgement, a critical stance and an understanding of principles, provides a foundation that readjusts to each new tool. Artificial intelligence makes this lesson more vivid still, so quickly do its tools evolve. A wise institution therefore gives priority to the competencies that cut across technologies, even if that means treating mastery of the tools of the moment as a surface layer, useful but rapidly renewed. This is a way of guarding against obsolescence, by anchoring competency in what lasts rather than in what passes.

Accessibility and inclusion, competencies in their own right

Designing teaching that is accessible to everyone is a basic digital competency. Knowing how to produce materials that assistive technologies can read, how to subtitle a video and how to think of several ways of accessing content is an integral part of the profession in the digital era (Meyer, Rose, & Gordon, 2014; W3C, 2023). The principles of Universal Design for Learning offer a concrete framework here, one that invites us to anticipate student diversity from the design stage rather than correcting after the event (CAST, 2024). Building accessibility into the foundation of expected competencies is one of the markers of an institution that is mature in this domain.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

STRAND 2

Professional development and recognition

Training offer, individual support, resources, communities of practice, recognition, transfer into practice.

What professional development covers

Professional development refers to all the schemes through which an institution helps its teams to acquire, maintain and develop their digital and pedagogical competencies. This includes formal training, but extends well beyond it. Peer support, mentoring, open-access resources, communities for exchange and learning on the job are just as much a part of it. Reducing this strand to a training catalogue would be a mistake, because most professional learning happens somewhere other than in a training room.

This strand also covers a strategic dimension, that of the alignment between the institution's needs and the offers proposed. Effective upskilling goes beyond simply responding to spontaneous requests. It anticipates, it targets, it ties the training effort to the institution's priorities. Without this alignment, a great deal of training takes place, sometimes at random, without ever filling the gaps that really matter.

The limits of traditional approaches

The most widespread approach is still one-off training: an isolated workshop, followed by no support at all. Yet research on educators' professional development has long been clear on this point: a single intervention, disconnected from real practice, does not produce lasting transformation (Guskey, 2002; Darling-Hammond, Hyler, & Gardner, 2017; Desimone, 2009). People often come away enthusiastic, then fall back into their habits within a few weeks, for want of support in taking the step.

Studies converge on the characteristics of professional development that really changes practice (Garet et al., 2001; Borko, 2004; Timperley, Wilson, Barrar, & Fung, 2007). It unfolds over time rather than as an event. It is anchored in the disciplinary context and the concrete situations of the participants. It draws on collaboration between colleagues. It offers opportunities to implement, to make mistakes and to adjust, with support. None of these characteristics is found in the one-off workshop, which explains its poor return. The aim, moreover, is to equip each educator to make informed choices in their own context, without imposing a single method on everyone.

Anchoring training in a competency framework

Effective upskilling cannot be improvised topic by topic. It relies on a competency framework, that is, a structured description of the competencies targeted, which serves as a compass for the training offer. Without this anchoring, the catalogue is built from one opportunity to the next and ends up looking like a patchwork, rich on some subjects and silent on others.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

The two frameworks presented in the first strand, DigCompEdu and the four-dimensional framework of human-AI competencies, play this role of compass. The guiding idea is that a competency always goes beyond the handling of a tool. It means keeping control of meaning, judgement and purpose. Anchoring training in such frameworks makes it possible to link each development activity to an identified competency, and therefore to check that the offer does cover what counts.

Communities of practice, the engine of peer learning

A decisive share of professional learning comes through exchange between colleagues who encounter the same situations, far more than through top-down training. The foundational work on situated learning showed that competencies are passed on and reshaped within communities of practice, those groups of people who share a concern and learn by doing together (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002). An educator often learns more from a colleague who has already solved a concrete problem than from a general workshop.

Cultivating these communities is one of the most powerful and least costly levers in the domain. The point is to give time, a place and legitimacy to exchanges that would otherwise remain informal and fragile, without creating heavy structures. A lively community of practice around the use of AI in assessment, for example, circulates tried and tested solutions far faster than an internal memo. The institution's role here is to garden rather than to build, that is, to bring together the conditions for these communities to emerge and last, without seeking to supervise everything.

Including support services

Professional development often concentrates on educators, and forgets those who support them. This is a mistake, because the quality of support depends directly on the competency of the support teams. A service that does not train itself in new uses, in artificial intelligence or in accessibility builds up a lag that affects the whole institution. Worse, it can become an unintentional brake, by advising against what it has not mastered.

Including support services in the professional development strategy therefore follows a simple logic. These teams occupy a pivotal position, at the intersection of decision-making, technology and pedagogy. Their upskilling multiplies that of educators, because they pass it on in turn. Investing in their training means investing in the institution's capacity to support change.

Reaching beyond the enthusiasts

Every institution has educators who are already at ease with digital technology, and others who are more reluctant or simply overwhelmed. The danger of poorly thought-out professional development is that it speaks only to the former, who are happy to take up training,

© Jean-François Van de Poël · CC BY-NC-SA 4.0

and leaves the latter aside. The gap then widens between an advanced minority and a majority that drops away, which produces the opposite of the intended effect.

Reaching the audiences furthest away calls for specific approaches. Language that does not presuppose prior ease. Short, concrete and directly applicable formats, rather than ambitious pathways that discourage. Close-at-hand support, from peers rather than from intimidating experts. And attention to the reasons for reluctance, which often have less to do with a refusal on principle than with a lack of time or a bad past experience (Ertmer & Ottenbreit-Leftwich, 2010). A mature institution is judged by its capacity to help those who need it most to progress, rather than its best performers, who are already autonomous. That is where the real effect of a training scheme is measured.

Artificial intelligence, a new subject of training

Generative artificial intelligence has added a vast field of competencies to be acquired, for educators and support services alike. Understanding how these tools work and where their limits lie, grasping the ethical issues, learning to formulate useful prompts, rethinking the design of activities and assessment in the light of these technologies: all of this constitutes a new territory for training (Long & Magerko, 2020; Holmes, Bialik, & Fadel, 2019). Data protection comes on top of this, because handling these tools means knowing their risks.

The temptation is strong to reduce this training to technical mastery, to knowing which buttons to press. That would miss the essential point. What matters to a mature institution is that its teams are able to think through their relationship with these tools, keep a critical reading of them and decide with full knowledge of the facts (Holmes, Bialik, & Fadel, 2019). Training in AI therefore means first of all training in judgement, in the critical reading of biases, errors and limits, far more than in technical dexterity. International recommendations insist on this critical and ethical dimension, which distinguishes informed use from mere consumption (UNESCO, 2023).

Measuring transformation

This is the point on which this strand stands or falls, and it deserves to be stated plainly. Most training schemes evaluate what is easiest to measure, namely the immediate satisfaction of participants. A questionnaire is handed out at the end of the session, the ratings collected are often good, and the conclusion drawn is that the training succeeded. Yet satisfaction says almost nothing about transformation. It is possible to leave a workshop delighted and change nothing in one's practice.

Measuring transformation means looking further and later. Have changes been observed in course design, in forms of assessment, in the support given to students? Have these changes lasted over time? Have they had an effect on learning? These questions are harder to instrument than satisfaction, but they are the only ones that really count. The most mature schemes therefore build indicators of effect, for example by following the actual evolution of the practices of a sample of educators after a training course, rather than settling for their

© Jean-François Van de Poël · CC BY-NC-SA 4.0

immediate impressions. With artificial intelligence, this requirement becomes even sharper: the real question is how many teaching and assessment practices have actually been transformed.

The levels at which training is evaluated

To evaluate a training course, it is useful to distinguish several levels, from the most superficial to the most significant (Guskey, 2002). The first level is the participants' reaction, that is, their immediate satisfaction. It is easy to collect, but it says almost nothing about effects. The second level is learning, namely what the participants have actually understood or acquired. The third level, the most important for this domain, is transfer, that is, actual implementation in professional practice. The fourth level, more demanding still, concerns results, for example the effect on students' learning.

Most schemes stop at the first level, because it is the most convenient. Yet it is from the third level onwards that we begin to speak of transformation. Moving up a notch on this scale, even if only for a few key training courses, radically changes the way an institution reads its own offer. It then discovers that satisfaction and transfer do not always go hand in hand, and that some demanding courses, less comfortable at the time, produce the most lasting changes. Aiming systematically for the fourth level would be unrealistic, but ignoring the third amounts to depriving oneself of any information about what counts. A mature institution therefore chooses a few strategic training courses and follows their transfer into practice, rather than measuring satisfaction with all of them.

Accessibility in the training itself

One requirement is too often forgotten, that of the accessibility of the training itself. People are trained to design accessible courses, but with materials that are not accessible. This inconsistency weakens the message as much as it excludes some of the participants.

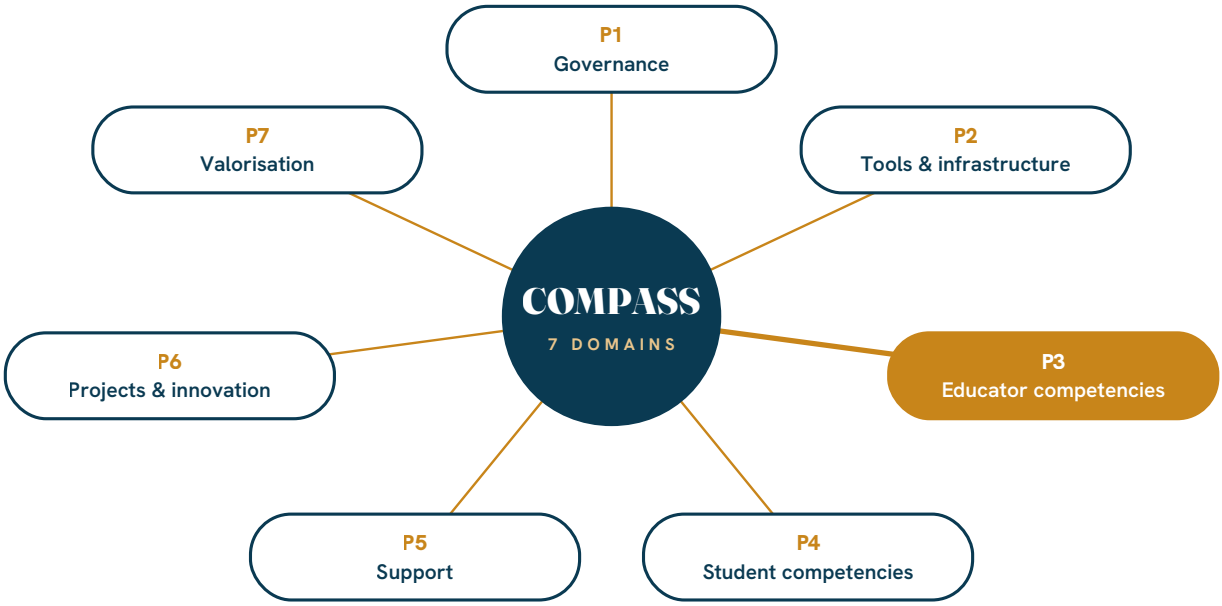
The principles of Universal Design for Learning apply to adult training as they do to teaching (Meyer, Rose, & Gordon, 2014; CAST, 2024). Subtitling training videos, offering materials that assistive technologies can read, varying formats to take account of the diversity of participants: all of this is a matter of basic consistency (World Wide Web Consortium, 2023). Training that preaches accessibility without practising it loses part of its credibility.

The link with the other domains

Educator competencies are not built in isolation. They rest on the professional development scheme that makes them grow, on the tool portfolio that makes them possible, and on governance that makes them a priority. They in turn determine students' digital competencies, discussed in the next chapter, because you cannot guide others towards a mastery you do not possess yourself. This domain is therefore a pivot, situated between the means the institution puts in place and the effects it aims for among students.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Professional development is worth only what it makes possible elsewhere. It brings the tool portfolio to life, by turning available features into real uses. It prepares the ground for student competencies, discussed in the next chapter. It feeds innovation, by equipping those who experiment. Finally, it connects with recognition, because training people without recognising the effort they put in amounts to asking a great deal while offering nothing in return. It is this last link that deserves a closer look.



Educator competencies (P3) are the point where the other domains converge and where the digital ecosystem meets real practice.

4.3 The maturity scale applied to educator competencies



The five maturity levels, from the lightest (absent) to the darkest (mature).

As with the previous domains, working through the five levels provides a common language for situating oneself.

The two strands are placed on the same scale and are read one after the other.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

STRAND 1 Framework and state of competencies

Competency framework, self-positioning, pedagogical design, assessment in the AI era.

Working through the five levels for this strand helps an institution to situate itself without judging itself.

At level 0, there is no shared description of competencies. Everyone gets by as best they can, nobody knows precisely what is expected, and the institution has no overall view. At level 1, a first initiative appears. A framework may be known to a few people, a few educators assess themselves informally, but the whole remains scattered and leads nowhere. At level 2, the approach becomes partially structured. A framework has been adopted, a self-positioning tool exists, but its use is uneven, it does not yet cover the competencies specific to artificial intelligence, and the results do not really serve to direct the effort.

At level 3, the strand is deployed. A common framework has been taken on board, self-positioning is widespread, AI-related competencies are part of the reflection, and the resulting mapping genuinely guides professional development. Accessibility is part of the foundation of expected competencies. At level 4, finally, the strand is mature. The institution knows its competency profile, tracks its evolution, differentiates support according to real needs and adjusts its frameworks as uses evolve, those of AI in particular. Above all, the approach no longer depends on a few committed individuals, because it is embedded in habits and connected to practice. A mature institution knows, beyond the number of educators who have attended a training course, which competencies have really been mastered and which are missing.

As with the other domains, it is common to be advanced on one aspect and behind on another, for example to have a solid framework for general digital competency and no reading of AI-related competencies. Spotting these imbalances directs the effort.

STRAND 2 Professional development and recognition

Training offer, individual support, resources, communities of practice, recognition, transfer into practice.

At level 0, professional development is absent as an organised effort. People train themselves, as their needs and curiosity dictate, with no organised offer or support. At level 1, we enter the pilot stage. A few workshops exist, run by motivated individuals, but they are one-off events, with no link to a framework and no follow-up, and they mostly reach volunteers who are already convinced. At level 2, the effort is partial. A training offer is taking shape, sometimes linked to a framework, but it remains uneven, its effects are rarely evaluated, and the support services are not fully part of it.

At level 3, professional development is deployed. A coherent pathway, anchored in a framework, is open to all the staff concerned, educators and support services included. Communities of practice are working, recognition of the effort is organised, and the institution is

© Jean-François Van de Poël · CC BY-NC-SA 4.0

beginning to measure something other than satisfaction. At level 4, finally, the scheme is mature. It is differentiated according to needs, linked to the competency framework, evaluated on its real effects and adjusted accordingly from one year to the next. AI training has its full place in it, the communities of practice are lively and autonomous, and the scheme no longer depends on a handful of indispensable trainers. The best sign of maturity here is that a change in practice, once under way, continues without the constant presence of a training scheme.

An institution is rarely homogeneous. It may excel at AI training and neglect accessibility, or have a fine catalogue without ever measuring its effects. Spotting these imbalances tells you where to direct the effort.

Once both strands have been placed on the scale, the levels obtained are compared. A marked gap in favour of professional development and recognition signals a problem of participation, transfer or recognition. A marked gap in favour of competencies indicates that they rest on individual initiatives, which nothing guarantees over time.

4.4 The expected deliverables

A well-run domain produces concrete objects that can be checked and discussed.

DELIVERABLE	THE PITFALL TO AVOID
A competency framework that is adopted and used	Without it, the offer is built without a compass and everyone improvises their own target.
A self-positioning scheme	With no follow-up, the score obtained leads to no support.
A competency map	Diverted into individual grading, it becomes a surveillance tool.
Reference points on AI-related competencies	Without a critical foundation, training courses on the tools of the moment simply pile up.
Resources on accessibility as a competency	Treated as a separate expertise, it drops out of the common core.
An explicit link with professional development	Without it, a missing competency is identified but never addressed.
A structured development pathway	A catalogue of unconnected workshops builds nothing that lasts.
Facilitated communities of practice	Without time, a place or facilitation, peer exchange dies out.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

DELIVERABLE	THE PITFALL TO AVOID
Recognition schemes	With nothing in return, commitment wears thin and rests on goodwill alone.
Accessible training materials	Teaching accessibility through materials that ignore it ruins the message.
An AI training offer	Without it, literacy and critical judgement are left at the door.
A needs analysis	Without it, training follows fashion instead of real priorities.
An evaluation of effects	Measuring satisfaction straight after a session says nothing about changed practice.

STRAND 1

Framework and state of competencies

Competency framework, self-positioning, pedagogical design, assessment in the AI era.

An adopted competency framework. A structured description of the expected competencies, built on a recognised framework such as DigCompEdu and supplemented, for artificial intelligence, by the dimensions of the four-dimensional framework. The pitfall would be to turn it into a rigid checklist for control; the framework must remain a common language, discussed and owned.

A self-positioning scheme. A simple way for each educator to place themselves on the framework, with no judgement and no penalty. Its pitfall is self-assessment with no follow-up, which produces a score and nothing else. Self-positioning is only worth doing if it opens onto support.

A competency map. An overview, at the scale of a unit or of the institution, of strengths and gaps. The pitfall would be to turn it into a tool for monitoring individuals; its purpose is to guide the collective effort.

Reference points on AI-related competencies. An accessible description of what critical verification, knowledge of the machine's capabilities, technical literacy and distinctive human capabilities cover in the AI era. The pitfall is to bolt these competencies on without the critical foundation that gives them meaning.

Resources on accessibility as a competency. Reference points and templates that make accessibility part of the profession, instead of treating it as a separate expertise. The pitfall would be to relegate it to a specialist unit, which relieves educators of their responsibility.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

An explicit link with professional development. Every competency identified as missing must be connectable to a training or support offer. The pitfall would be to draw up a diagnosis and leave it at that, which discourages more than it mobilises.

As in the previous chapters, the mere formal existence of these deliverables is not enough. A framework that nobody consults or a map that nobody uses changes nothing. Their value lies in their real use.

STRAND 2

Professional development and recognition

Training offer, individual support, resources, communities of practice, recognition, transfer into practice.

Professional development that works leaves concrete traces that can be checked.

A structured development pathway. A pathway that connects training activities to one another and ties them to identified competencies. It offers entry points for different levels and lets everyone progress at their own pace.

A competency framework in use. DigCompEdu or the four-dimensional framework of human-AI competencies, or both, serve as the compass for the offer. Each training activity is tied to a competency, which makes it possible to check coverage and spot gaps.

Facilitated communities of practice. Spaces for peer exchange, given a minimum of time, a place and facilitation, where concrete solutions circulate. Lively here means that they produce regular exchanges.

Recognition schemes. Badges, micro-credentials or workload relief that validate the effort made and give it visibility. Recognition turns a constraint into a valued investment.

Accessible training materials. Resources designed according to universal design principles, captioned, readable by assistive technologies and available in several formats. The form respects what the content teaches.

An artificial intelligence training offer. Activities covering literacy, ethics, design and assessment in the AI era, as well as data protection. This offer targets judgement as much as technique.

A needs analysis. Regular work that identifies the missing competencies in the light of the institution's priorities, instead of settling for spontaneous requests. Anticipating is better than reacting.

An evaluation of effects. A scheme that measures the transformation of practice, beyond satisfaction. This is the deliverable that distinguishes mature professional development from mere training activity.

These deliverables too draw their value from their real use. An impeccable pathway that nobody follows, or an evaluation of effects that nobody reads, changes nothing.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

4.5 Putting competency development in place

Having the right deliverables is not enough. You also need ways of working that bring them to life and produce lasting effects. This section describes how to keep the competency framework alive, then how to establish professional development that really transforms practice.

STRAND 1 **Framework and state of competencies**

Competency framework, self-positioning, pedagogical design, assessment in the AI era.

Having a framework is not enough. You also need ways of working that make it useful and that produce effects on practice.

Adopting a common framework without making it a straitjacket

The first decision is to choose a framework and make it your own. Instead of inventing one from scratch, it is wiser to start from a recognised framework such as DigCompEdu, adapting it where needed to the institution's vocabulary and priorities (Redecker & Punie, 2017). Ownership matters as much as the choice. A framework discussed with the teams and illustrated with examples from their disciplines has a far better chance of living than a document adopted in committee and circulated by memo. The aim is to offer educators a mirror and a common language.

Self-positioning as a starting point

Competency development begins with awareness, and self-positioning is the most respectful way of getting there. By placing themselves on the framework, educators stay in charge of their own progress, without feeling judged. The condition for success is that the exercise does not end there. Self-positioning that leads to suitable resources, support or a community of practice sets a dynamic in motion; self-positioning that produces only a score kills it. The exercise is also worth repeating over time, so that everyone measures the distance they have travelled and not a fixed state.

Differentiating by profile and discipline

Educators do not start from the same point and do not teach the same subjects. A digital competency that is relevant in the experimental sciences is not necessarily relevant in the humanities, and the needs of an experienced educator differ from those of a beginner. Differentiating support according to these profiles avoids two symmetrical pitfalls: boring the most advanced with elementary content, and discouraging the least confident with expectations that are out of reach. Anchoring examples in the disciplines, instead of staying with an abstract notion of digital, makes the competencies more concrete and easier to adopt.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Integrating AI-related competencies without giving in to fashion

Artificial intelligence calls for new competencies, but the way they are integrated makes all the difference. It is very tempting to multiply training sessions on the latest fashionable tool, at the risk of confusing activity with competency. A sounder approach is to connect these competencies to a framework, clearly distinguishing critical verification, knowledge of the machine's capabilities, technical literacy and distinctive human capabilities (Van de Poël, 2025). Structured in this way, AI training targets judgement as much as technique, and it stands up better to the rapid obsolescence of tools. The real competency is knowing how to think through your relationship with these technologies.

Connecting competencies to real practice

As with professional development, the common thread remains the real effect on practice. A competency declared in a self-positioning exercise only has value if it shows up in course design, assessment and student support. Regularly connecting the competency map to concrete observations, and not to declarations alone, makes it possible to check that upskilling really produces something. This link is also what protects the framework from the fate of dead documents, consulted once and then forgotten. A competency that changes nothing in practice remains a mere intention.

Distinguishing declared competency from real competency

Self-positioning rests on declaration, and that is both its strength and its limit. Its strength, because it respects educators' autonomy and engages them in their own progress. Its limit, because what people declare does not always match what they do. Some people underestimate themselves, others overestimate themselves, and self-confidence does not measure competency (Ertmer & Ottenbreit-Leftwich, 2010). A mature reading of competencies therefore does not stop at the declaration.

Without turning self-positioning into an examination, which would destroy the trust it depends on, it can be supplemented with concrete evidence. A course designed, an assessment rethought, a resource made accessible often say more than a score. Cross-checking the declaration against these achievements, on a voluntary and supportive basis, gives a truer picture without sliding into control. What matters is making sure that competency goes beyond intention. An institution that confuses the feeling of competency with competency itself deprives itself of the means to progress, because it settles for a flattering picture that says nothing about practice.

The role of support services

Digital support services play a particular role in this strand, often discreet but decisive. They are the ones who, most of the time, propose the framework, run the self-positioning exercises, build the map and connect the gaps identified to forms of support. Their position, at the intersection of technology, pedagogy and the institution, makes them valuable intermediaries between general frameworks and disciplinary realities.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

These teams must, however, themselves have the competencies they seek to develop in others, and in particular a good understanding of the issues raised by AI. A unit that has not mastered critical verification or AI literacy will struggle to write it into a framework and to support it. Investing in the upskilling of these teams, as we saw earlier, therefore has a multiplier effect, because they pass it on in turn. The role of support services is to orchestrate the collective effort, to make it legible and to keep it alive, without taking the place of educators in mastering the competencies.

STRAND 2 **Professional development and recognition**

Training offer, individual support, resources, communities of practice, recognition, transfer into practice.

Starting from needs

The first discipline is to base the offer on a needs analysis. It is tempting to schedule a training session on the latest fashionable tool, because everyone is talking about it. But training on what shines leaves aside what is missing. A regular needs analysis, combining the institution's priorities, the difficulties reported by support services and the teams' expectations, makes it possible to target the effort where it will have the most effect. This analysis benefits from involving those most directly concerned, because felt needs and real needs do not always coincide, and dialogue helps to bring them closer together.

Diversifying formats

Effective professional development relies on a plurality of formats. The one-off workshop has its place for discovery, but it must be part of a richer whole. Individual support, peer tutoring, open-access resources that can be consulted at the point of need, communities of practice and the sharing of experience between colleagues form a learning ecosystem far more powerful than a succession of sessions. The most lasting learning often happens in supported action, when an educator tries something new in their course with the backing of a colleague or a support unit. Multiplying the entry points also makes it possible to reach different audiences, because not everyone learns in the same way or at the same time.

Recognition as a condition

Recognition is often treated as an extra, the icing on the cake. That is a mistake. It is a condition of lasting participation. Training takes time, and that time is almost always taken from something else. As long as this effort goes unrecognised, it rests on goodwill alone, which wears out. Recognition schemes, such as badges, micro-credentials or relief from teaching duties, change the equation. They signal that the institution truly values upskilling. This recognition applies just as much to support services as to educators. Linking professional development to the valorisation of practice, discussed later in this book, is one of the surest levers for sustaining commitment over time.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Providing support over time

The factor that most clearly distinguishes training that transforms from training that is forgotten is support over time. A single intervention, however brilliant, is not enough to anchor a change in practice (Darling-Hammond, Hyler, & Gardner, 2017; Desimone, 2009). What makes the difference is the possibility of trying, of coming back with questions, of adjusting with support. This means thinking of training as a process, with follow-up after the session, support that is available, and opportunities to return to what has been put into practice. Leading this change is a matter of buy-in more than constraint, and it succeeds when it relies on practitioners who in turn become carriers of the transformation (Fullan & Scott, 2009).

Measuring effects, in concrete terms

Measuring transformation seems difficult, and many give up on it. Yet a few simple approaches exist. You can follow, with a voluntary sample, how practice really evolves after a training course, by looking at concrete outputs instead of declarations. You can ask participants a few months later, and not straight after the session, what they have actually changed. You can connect certain training courses to indicators from the other domains, for example changes in the accessibility of courses or in assessment practices. The important thing is to measure the right thing, that is, the effect on practice, and not immediate satisfaction alone. An institution that gets into this habit often discovers that some highly rated training courses change nothing, while others, more modest, bring lasting change. This information is worth its weight in gold, because it makes it possible to invest where the effect is real.

The role of trainers and peer mentors

Professional development is only as good as the people who carry it. The question of who does the training is therefore far from secondary. In-house trainers, where they exist, have the advantage of knowing the institution's context, its tools and its constraints. They still need to keep training themselves, and this often invisible mission needs to be recognised. An institution that relies on trainers without maintaining their competencies sees its offer age without noticing.

Peer mentors play a complementary and valuable role. An educator who has already adopted a new practice is often the best guide for a colleague, because they speak the same language and have met the same obstacles. Organising this peer mentoring, by giving it time and recognition, multiplies training capacity at low cost. The train-the-trainer approach, in which you equip intermediaries who train others in turn, extends the reach of the scheme well beyond what a central team could achieve alone. Support services have an orchestrating role here, identifying, supporting and connecting these trainers and peers, instead of trying to deliver everything themselves.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Aligning professional development with human resources and quality

Professional development benefits from being connected to the arrangements that already exist in the institution. On the human resources side, the induction of new arrivals is an ideal moment to lay the foundations of digital competencies, instead of leaving everyone to fend for themselves. Career interviews and competency reviews are all opportunities to connect digital upskilling to the professional pathway, which gives it meaning and continuity.

On the quality side, teaching evaluation and continuous improvement processes offer a setting in which the effects of training can be observed and discussed. Connecting professional development to these arrangements prevents it from floating off on its own, and gives it access to valuable information about real needs. This alignment consists in getting the existing structures to talk to one another. Training designed in line with strategic priorities, supported by human resources and observed through the quality process, has a far better chance of producing lasting effects than an isolated initiative.

Time, the scarcest resource

If we had to name the main obstacle to professional development, it would be lack of time, far more than lack of offer or motivation. Educators and support teams are absorbed by their daily tasks, and training means taking that time from something else. As long as this reality goes unrecognised, the best intentions run up against a full diary.

The most advanced institutions treat time as a resource to be protected. They build dedicated training slots into the workload, instead of expecting teams to train on top of everything else. They favour formats that fit into everyday work, such as learning at the point of need or close, local support, which are lighter than a long training course that has to be scheduled. And they recognise the time devoted to training. Ignoring the time constraint condemns professional development to reaching only those who already have time available, and therefore to widening gaps instead of narrowing them.

4.6 The anti-patterns

Some configurations recur often enough to deserve a name. Spotting them makes it possible to act before the problem takes hold and to avoid a great deal of wasted effort.

ANTI-PATTERN	THE REMEDY
Reducing competency to mastery of tools	Aim for pedagogical judgement, not knowledge of the buttons.
The framework imposed, never owned	Co-construct the framework and keep it alive instead of decreeing it.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

ANTI-PATTERN	THE REMEDY
Self-assessment with no follow-up	Connect every self-positioning exercise to concrete support.
AI competencies bolted on without a critical foundation	Anchor AI in a framework: verification, literacy, judgement.
Ignoring the disciplines	Adapt digital to the professions and fields.
Accessibility forgotten or delegated	Write it into the common core, understood by everyone.
The map turned into surveillance	Make it a collective tool for guidance, never for grading.
The one-off training session with no follow-up	Support over time.
Preaching to the converted, always targeting the same people	Go and find audiences beyond the enthusiasts.
Measuring satisfaction instead of transformation	Track the effects on practice.
Unrecognised effort	Badges, workload relief or micro-credentials that validate commitment.
Forgetting the support services	Include the support teams in upskilling.
Imposing a single method	Start from needs and respect the diversity of ways of teaching.
Training without support	Support implementation, where everything is decided.
Accessibility forgotten in training	Design the materials in line with what they teach.
The catalogue without a framework	Anchor the offer in a competency framework.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

STRAND 1 Framework and state of competencies

Competency framework, self-positioning, pedagogical design, assessment in the AI era.

Reducing competency to mastery of tools. Training covers buttons, equipment rates are measured, and anyone who can open a piece of software is assumed to be competent. Pedagogy and judgement disappear behind technique. The remedy is to anchor each competency in a pedagogical and disciplinary intention.

The framework imposed, never owned. A framework is adopted in committee, circulated by memo, and nobody makes it their own. It joins the archive without ever having been used. The way out is to discuss the framework with the teams and illustrate it in their disciplines.

Self-assessment with no follow-up. Educators position themselves, obtain a score, and nothing happens next. The exercise dies out for want of an outcome. Connecting every self-positioning exercise to resources and support restores its meaning.

AI competencies bolted on without a critical foundation. Training courses on the tools of the moment pile up, without the foundation of critical verification that gives them meaning. Educators learn to operate without learning to judge. The remedy is to tie these competencies to a framework that distinguishes technique from judgement.

Ignoring the disciplines. The talk is of an abstract notion of digital, identical for everyone, which resonates with nobody's practice. Anchoring competencies in the disciplines makes them concrete and adoptable.

Accessibility forgotten or delegated. Accessibility is treated as a separate expertise, entrusted to a specialist unit, and educators feel relieved of it. Making it part of the core of expected competencies gives everyone a share of the responsibility.

The map turned into surveillance. The overview of competencies is used to grade individuals instead of guiding the collective effort. Distrust sets in and self-positioning results become distorted. The map must remain a collective tool, never an instrument of individual control.

Always targeting the same people. The initiatives reach educators who are already at ease, while the others stay on the sidelines, and the gap widens. Reaching out to the hardest-to-reach audiences, with suitable approaches, is the only way to move everyone forward.

STRAND 2 Professional development and recognition

Training offer, individual support, resources, communities of practice, recognition, transfer into practice.

The one-off training session with no follow-up. A workshop is offered, then nothing more. Participants leave motivated, but quickly fall back into their habits for lack of support. The remedy is to think of training as a supported process, with follow-up after the session.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Preaching to the converted. Training always reaches the same people, those already won over to digital, while the others stay on the sidelines. The scheme appears to progress, but the gap widens. The way out is to go and find the hard-to-reach audiences, with suitable formats and close, local support.

Measuring satisfaction instead of transformation. Good ratings are collected straight after the session and taken as sufficient, with no check on whether practice has changed. The remedy is to build effect indicators, however modest, and to look later at what has actually shifted.

Unrecognised effort. Teams are asked to train in their own time, with nothing in return. Commitment then rests on goodwill alone, which wears out. Recognition schemes, such as badges, micro-credentials or workload relief, restore the balance.

Forgetting the support services. All the attention goes to educators, and the teams who support them stop training. Their lag ends up holding everyone back. Including these services in the training strategy multiplies its effect.

Imposing a single method. The training prescribes one right way to teach, taking no account of disciplines or contexts. It generates resistance more than buy-in. The aim is to equip everyone to make informed choices.

Training without support. People are trained, but implementation is not supported. Yet it is precisely at the moment of application, when the concrete difficulties arise, that support is most useful. Planning this support after the session changes everything.

Accessibility forgotten in the training itself. People are taught to design accessible courses, through materials that are not accessible. The inconsistency weakens the message. Applying to training the principles it promotes restores its credibility.

The catalogue without a framework. The offer is built opportunistically, without a compass, and ends up as a patchwork, rich in one place and silent in another. Anchoring the catalogue in a competency framework makes it possible to see what is covered and what is missing.

4.7 A possible trajectory

Two stories illustrate this path, one for each strand.

Imagine a higher education institution where digital competencies are described nowhere. At the outset, it sits at level 1. A few enthusiastic educators train themselves on their own initiative, but the institution has no overview, and the arrival of generative AI has sown a mixture of excitement and anxiety with no shared reference points. A first snapshot reveals that there is no framework and no reading at all of AI-related competencies.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Rather than formalising everything at once, senior management chooses two priorities: adopting DigCompEdu as a common language and offering a simple, no-stakes self-positioning exercise. In parallel, it describes the AI-specific competencies in accessible terms, drawing on the four dimensions of the four-dimensional framework, to give teams reference points where confusion reigned. The first self-positionings draw a clear map, with strengths in resource design and gaps in assessment in the AI era and in accessibility. The training offer is then redirected towards these specific gaps. At the next reassessment, this strand reaches level 3, AI-related competencies have entered the common language, and accessibility is part of the expected core. The institution has made visible what mattered and concentrated effort where it was lacking, without lengthening its list of training courses.

The second story follows the same logic on the professional development side.

Imagine an institution whose digital training amounts to a few one-off workshops, attended every year by the same educators who are already at ease. At the outset, it sits at level 1. A first snapshot reveals three weaknesses: the absence of a framework, the absence of any measurement of impact, and the exclusion of support services from the offer. Rather than reforming everything, senior management chooses two priorities: anchoring the offer in DigCompEdu and launching two communities of practice, one of them on the use of AI in assessment. In parallel, it sets up a simple form of recognition, through badges, and begins to question participants a few months after the training, and no longer only at the end of the session. The first results are instructive. Some highly rated courses change nothing, while the communities of practice, less spectacular, transform practices in depth. The institution then redirects its effort towards these formats. At the next reassessment, this strand reaches level 3, support services are integrated into the offer, and training has ceased to be an event and become continuous support. The institution has shifted its training budget, without increasing it, towards what produces results.

4.8 What mature practice looks like

In an institution that is mature in this domain, the expected digital competencies are described in a common framework, owned by the teams and kept alive, which brings together general digital competencies and those specific to AI. Educators place themselves on this framework without fear, because self-positioning opens onto support. The resulting map genuinely guides collective effort by revealing the gaps to be filled. AI-related competencies are thought through from a framework that distinguishes critical verification, knowledge of the machine's capabilities, technical literacy and distinctive human capabilities, which protects training from the race for tools.

Accessibility is part of the core, understood by everyone as a basic competency. Above all, the approach is tied to actual practice, so that a competency identified as acquired really does show up in course design and assessment. The approach no longer depends on a few enthusiasts, because it is embedded in habits and linked to professional development. It is

© Jean-François Van de Poël · CC BY-NC-SA 4.0

by this continuity, more than by the sophistication of the tools used, that one recognises educator competencies that have reached maturity.

In this same institution, professional development has become a coherent pathway, anchored in a competency framework and open to all the staff concerned, educators and support services alike. Lively communities of practice circulate concrete solutions, often faster than official channels. Recognition of the effort is organised, through badges, micro-credentials or workload relief, which makes participation sustainable.

Training in artificial intelligence has its full place there, centred on judgement and critical reading as much as on technique. The materials respect the accessibility principles they teach. Above all, the institution measures what matters. It tracks the real transformation of practices, beyond satisfaction alone, and adjusts its offer accordingly. The scheme no longer depends on a few providential trainers, because it rests on communities and relays that outlast them. It is by this autonomy, more than by the richness of the catalogue, that one recognises professional development that has reached maturity.

4.9 Where to start, depending on your starting point

The way forward depends on the level reached. Three scenarios cover most situations.

For each of them, the first steps concern the competency framework first, then professional development.

If you are at level 0 or 1, the mistake would be to try to build a complete competency evaluation scheme from the outset. Start by adopting a recognised framework such as DigCompEdu, so as to have a common language, and offer a simple, no-stakes self-positioning exercise. In parallel, describe the AI-specific competencies in accessible terms, because this is often where confusion is greatest and the need for reference points most acute. These first steps give you a map where there were only impressions.

On the professional development side, avoid trying to build a complete catalogue from the outset. Start with an honest snapshot, then anchor the existing offer in a framework such as DigCompEdu, in order to see what you cover and what is missing. Launch one or two communities of practice on burning topics, AI in assessment for example, because they produce quick results at low cost. Finally, set up a simple form of recognition, even a symbolic one at first. These first steps change the dynamic without requiring major resources.

If you are at level 2, your difficulty lies in unevenness and lack of follow-through. The effort then bears on three fronts. Extend self-positioning to everyone, linking it systematically to support, so that it stops being a score that leads nowhere. Integrate AI-related competencies fully into the framework, rather than treating them separately. And make accessibility a core competency, understood by everyone. At this stage, cross-referencing the competency map with the training offer reveals specific gaps to be filled.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

On the professional development side, the difficulty at level 2 lies in unevenness and lack of measurement. Here too the effort bears on three fronts. Integrate support services fully into the training offer. Diversify formats beyond the one-off workshop, by developing individual support and resources that can be consulted at the moment of need. And above all, start measuring transformation, beyond satisfaction alone, even if you do so modestly on a sample. You will probably discover that your most highly rated courses are not your most effective ones.

If you are at level 3, the challenge becomes one of maintaining and adjusting. Track how the competency profile changes over time. Adjust the framework as uses of AI evolve, because a fixed framework ages quickly in this field. Finally, link the map to concrete observations of practice, to check that declared competencies translate into action.

On the professional development side, the challenge becomes one of lasting and deepening. Make the communities of practice autonomous, so that they no longer depend on central facilitation. Differentiate pathways according to real needs. Make the measurement of impact systematic and link it to the adjustment of the offer. Finally, connect professional development with the institutional recognition of practices, so that the effort of upskilling feeds lasting valorisation. Level 4 is sustained over the long term.

Finally, the two strands are sometimes not at the same level. If professional development is ahead, first look for why the offer is not translating into competencies, by examining who takes part, what is transferred into courses and what is recognised. If competencies are ahead, rely on the people who carry them to structure the offer and the recognition, before their commitment runs out.

4.10 The case of small institutions

All this may seem tailored to large institutions with dedicated services. Yet it applies to small ones too. A small higher education institution needs the same reference points, at its own scale, without a sophisticated competency evaluation scheme. A recognised framework, adopted as it stands, a light self-positioning exercise and a regular team discussion are enough to set things in motion.

The same goes for professional development, which can do without an extensive catalogue and a dedicated team. A shared framework, a few communities of practice, simple recognition and attention to impact are enough to set things in motion.

Pooling is valuable here. Frameworks are public and shared, self-positioning tools exist and can be reused, and nothing prevents several small institutions from thinking about their competencies together. The risk specific to small institutions lies elsewhere, in dependence on one or two key people who alone carry the institution's digital competency. Describing the expected competencies, rather than relying on these individuals, protects the institution on the day they leave.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Communities of practice can also reach beyond the walls of a single institution and be built between neighbouring ones, which widens the circle of peers and lightens the facilitation load. The same dependence threatens training, when a single key person carries all of it. The day that person leaves, the scheme collapses. This is why documenting, sharing and relying on external networks protects better than in-house expertise concentrated in one person.

4.11 Indicators and questions to ask yourself

This final section brings together what is needed to assess the domain and feed the discussion. It aims to be exhaustive. Not all the elements will carry the same weight in every institution, but none should be set aside without having been considered. Use the indicators to measure and track over time, and the questions to position yourself honestly on the scale from 0 to 4.

Indicators to track

STRAND 1 **Framework and state of competencies**

Competency framework, self-positioning, pedagogical design, assessment in the AI era.

FRAMEWORK AND COMMON LANGUAGE

- the existence of an adopted competency framework and the degree to which teams have made it their own;
- the share of AI-specific competencies actually described in the framework;
- how up to date the framework is, given how quickly uses are changing.

SELF-POSITIONING AND MAPPING

- the share of educators who have completed a self-positioning exercise over a given period;
- the share of self-positionings that lead to actual support;
- the existence of a competency map at the level of the service or the institution.

AI-RELATED COMPETENCIES

- the presence, in the framework, of the four dimensions of the four-dimensional framework;
- the balance, in the offer, between technical mastery and critical verification;
- the share of educators who say they are comfortable validating an AI output.

ACCESSIBILITY AND INCLUSION

- the place of accessibility in the core of expected competencies;
- the share of educators who know how to produce accessible materials;
- actual use of the accessibility templates and resources made available.

EFFECTS ON PRACTICE

- the link between the competency map and the professional development offer;

© Jean-François Van de Poël · CC BY-NC-SA 4.0

- the translation of declared competencies into course design and assessment;
- how the institution's competency profile changes over time.

STRAND 2 **Professional development and recognition**

Training offer, individual support, resources, communities of practice, recognition, transfer into practice.

OFFER AND FRAMEWORK

- the existence of a structured development pathway, and its link to a competency framework;
- the share of the framework's competencies actually covered by the offer;
- how regularly needs are analysed, and the share of the offer that follows from that analysis.

PARTICIPATION AND AUDIENCES

- the share of teaching staff who have taken part in at least one training activity over a given period;
- the share of support services included in the professional development offer;
- the diversity of audiences reached, beyond the volunteers who are already convinced.

COMMUNITIES OF PRACTICE AND FORMATS

- the number of active communities of practice, and the regularity of their exchanges;
- the diversity of formats offered, beyond the one-off workshop;
- the availability of support after training, and its take-up rate.

RECOGNITION

- the existence of recognition schemes: badges, micro-credentials or workload relief;
- the share of training activities that lead to recognition;
- the extent to which training effort is taken into account in career valorisation.

ARTIFICIAL INTELLIGENCE AND ACCESSIBILITY

- the share of the offer covering literacy, ethics and design in the AI era;
- the balance, in this offer, between technical mastery and critical judgement;
- the compliance of training materials with accessibility principles.

EFFECTS AND TRANSFORMATION

- the existence of a measurement of impact, beyond immediate satisfaction;
- the share of practices actually transformed after training, in a monitored sample;
- the real use of this measurement to adjust the offer.

The five key indicators

Among all the indicators of this domain, five deserve to be tracked first. Annex C gives the full catalogue, with the definition, calculation, data source, frequency and owner of each indicator. The targets are benchmarks to adapt to your context.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

KEY INDICATOR	TARGET	WHERE TO FIND THE DATA	FREQUENCY
Self-assessment rate Share of educators who completed the self-assessment against the framework during the year.	≥ 70% per year	Self-assessment platform (aggregated data)	Annual
Progression ≥ 1 level Share of educators who progressed by at least one level on one competency of the framework from one year to the next.	≥ 40% per year	Self-assessment platform, N and N+1 comparison	Annual
AI transparency in courses AI Share of course plans that specify what is permitted or prohibited regarding AI, how to cite and which data to protect.	≥ 80%, then 100%	Audit of course plans	Biannual
AI module participation AI Share of educators who took at least one module dedicated to AI (literacy, ethics, design, assessment).	≥ 60% per year	Enrolment system, LMS	Annual
Transfer to classroom SURVEY Share of participants who report applying at least one strategy within eight weeks of the training.	≥ 60%	Follow-up questionnaire 6 to 8 weeks after the training	After each training, annual review

Questions to ask yourself

These questions are best answered as a group, requiring evidence for every "yes" and recording disagreements rather than smoothing them over.

STRAND 1 **Framework and state of competencies**

Competency framework, self-positioning, pedagogical design, assessment in the AI era.

FRAMEWORK AND COMMON LANGUAGE

1. Are the expected digital competencies described in a common framework, rather than left to each person's judgement?
2. Does this framework draw on a recognised reference such as DigCompEdu?
3. Has it been taken up and discussed by the teams, or only passed down the hierarchy?
4. Is it updated as uses evolve, those of AI in particular?

SELF-POSITIONING AND MAPPING

5. Do educators have a simple way of placing themselves on the framework, without being judged?
6. Does self-positioning systematically lead to resources or support?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

7. Do you have a competency map that guides collective effort?
8. Is this map used to guide, without monitoring individuals?

INTEGRATING DIGITAL INTO PEDAGOGY

9. Are competencies related to a pedagogical and disciplinary purpose, or reduced to technique?
10. Are the examples anchored in the educators' own disciplines?
11. Is the distinction between mastering a tool and connecting it to one's subject taken into account?

AI-RELATED COMPETENCIES

12. Does the framework cover critical verification of AI outputs?
13. Does it cover knowledge of what the machine can do, and of its limits?
14. Does it cover technical literacy, that is, the ability to configure and query the tool?
15. Does it cover distinctive human capabilities, such as moral judgement and creativity?
16. Does AI training aim at judgement as much as at technical mastery?

ACCESSIBILITY AND INCLUSION

17. Is accessibility part of the core competencies expected of every educator?
18. Do educators know how to produce accessible materials without depending entirely on a service?
19. Are accessibility templates and resources available and actually used?

EFFECTS AND SUSTAINABILITY

20. Do declared competencies translate into course design and assessment?
21. Is the competency map linked to the professional development offer?
22. Do you reach out to the educators furthest from digital, or always to the same ones?
23. Is the institution's competency profile tracked over time?
24. Would the approach survive the departure of its few key people?

STRAND 2 Professional development and recognition

Training offer, individual support, resources, communities of practice, recognition, transfer into practice.

OFFER AND ANCHORING

25. Is there a structured professional development pathway, rather than a succession of isolated workshops?
26. Is this offer anchored in a competency framework, such as DigCompEdu or the four-dimensional framework of human-AI competencies?
27. Does the offer follow from a needs analysis, or is it built according to passing trends?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

AUDIENCES AND INCLUSION

28 Does training reach all teaching staff, or always the same volunteers?

29 Are support services included in the professional development strategy?

30 Do adapted formats make it possible to reach the audiences furthest from digital?

COMMUNITIES OF PRACTICE AND FORMATS

31 Do lively communities of practice circulate solutions among peers?

32 Does the offer go beyond the one-off workshop, with individual support and resources that can be consulted when needed?

33 Is help available at the point of implementation, when the concrete difficulties arise?

RECOGNITION

34 Is training effort recognised, through badges, micro-credentials or workload relief?

35 Does this recognition also apply to support services?

36 Is professional development linked to the valorisation of practices in career paths?

ARTIFICIAL INTELLIGENCE

37 Does the offer cover literacy, ethics and design in the AI era?

38 Does this training aim at critical judgement as much as at technical mastery?

39 Is data protection built into training on AI tools?

ACCESSIBILITY

40 Do training materials respect the accessibility principles they promote?

41 Are formats varied to take account of the diversity of participants?

EFFECTS AND TRANSFORMATION

42 Do you measure the transformation of practices, beyond immediate satisfaction?

43 Do you question participants some time after the training, in addition to the end-of-session evaluation?

44 Do you link certain courses to concrete indicators from the other domains, such as accessibility or assessment?

45 Is this measurement really used to adjust the offer, or does it lead nowhere?

46 Can you tell highly rated courses apart from those that really transform practices?

SUSTAINABILITY

47 Would the scheme survive the departure of its key trainers?

48 Are the communities of practice autonomous enough to live without constant central facilitation?

49 Is the offer adjusted from one year to the next in the light of what has been learned?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

A frank answer to these questions is worth more than a good score. It shows where to direct effort, and that is exactly what a mature reading of competencies is meant to make possible.

Two ideas run through this chapter and are worth keeping. The first concerns professional development. Training is measured by the number of practices that have really changed, far more than by the number of people who have passed through the room. Everything else, the richness of the catalogue, participation rates, the good ratings collected at the end of the session, can give the illusion of movement without transforming anything.

An institution that keeps this compass in mind invests its time and budget where they produce results, and accepts giving up what reassures without changing anything.

The second concerns the competencies themselves. Educators' digital competency is measured by the ability to connect tools to a pedagogical purpose, to subject them to judgement and to put them at the service of students. The framework is a common language that helps each person to place themselves and to progress; AI-specific competencies are thought of in a logic of co-agency in which the human stays in control. An institution that holds this course develops educators capable of using digital technology in a considered, critical way that serves learning. The next chapter naturally extends this reflection by moving from educators to those they support, with students' digital competencies.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P4 · DOMAIN 4

CHAPTER

5

Students' Digital Competencies

CHAPTER MAP · FOR A QUICK READ

Why this domain matters. Every institution enters into a contract with its students that is rarely written down: to prepare them to find information, to work and to exercise critical thinking in a digital world, and tomorrow to collaborate with AI in it.

THE ROAD TO MATURITY, FROM 0 TO 4



KEY DELIVERABLES

- Student competency framework
- Curricular integration
- Self-positioning / diagnostic
- Guidance on AI use
- Equity measures
- Accessible resources

ANTI-PATTERNS TO AVOID

- Assuming the competencies are already there
- AI handled by prohibition alone
- The diagnostic with no follow-up
- Ignoring equity

CROSS-CUTTING REQUIREMENTS, NEVER SUSPENDED

Accessibility | Data protection | Responsible AI

THE KEY IDEA

A mature approach to student competencies is written into the curricula, ties digital skills to critical judgement and leaves no one behind.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

5.1 Why this domain matters

Every higher education institution enters into a contract with its students that it almost never writes down. By admitting them, it implicitly promises to educate them in a discipline and to prepare them to find their way in a digital world: to find information there, to work there, to exercise their critical thinking there and, tomorrow, to collaborate there with artificial intelligence systems. This contract is real. It engages the credibility of the institution and the future of its graduates. Yet it is most often invisible, scattered across courses that do not make it their subject, assumed by everyone to be fulfilled and taken on by no one.

This is where the difficulty specific to this domain lies. Students' digital competencies are cross-cutting: they belong to every curriculum and to none in particular. Everyone imagines that they are developed elsewhere, in another course, in another service, or naturally through contact with screens. This diffusion of responsibility produces a blind spot. We assess precise disciplinary knowledge, yet we leave in the shadows competencies that nonetheless condition success in studies and entry into working life. Making this contract explicit, naming it, structuring it and monitoring it, is the central issue of this chapter.

The arrival of generative artificial intelligence has made this issue a burning one. Students have taken up these tools with a speed that few institutions had anticipated, often with no framework and no support (Chan & Hu, 2023). Faced with this reality, a mature institution goes beyond prohibition or tolerance. It regards the responsible use of AI as a competency in its own right, one that it is the institution's job to develop, on the same footing as the ability to evaluate a source or to protect one's data.

5.2 Understanding this domain

What students' digital competencies cover

A student's digital competencies go well beyond knowing how to use a computer or a platform. They cover a broad set, which international frameworks have gradually structured. The European digital competence framework for citizens, DigComp, distinguishes five main areas: information and data literacy, communication and collaboration, content creation, safety and digital well-being, and finally problem solving (Vuorikari, Kluzer, & Punie, 2022). This list shows how far these competencies extend beyond simple technical skill.

Each of these areas has concrete implications for a student. Knowing how to search for, evaluate and cross-check information conditions the quality of all academic work. Communicating and collaborating remotely has become the norm. Creating digital content, while respecting copyright, is part of what is expected. Protecting oneself, protecting one's data and looking after one's digital well-being is as much a matter of citizenship as of prudence. Solv-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

ing problems with digital technology, finally, prepares students for a professional world in which these tools are everywhere. Describing these competencies, instead of assuming they are already there, is the first step towards honouring the invisible contract.

The invisible contract and the scattering of responsibilities

Let us return to what makes this domain distinctive. Unlike educator competencies, which are carried by an identified professional body, student competencies have no clear owner in the organisation. They sit at the intersection of disciplinary teaching, library services, IT services and student life. This cross-cutting nature is an asset, but it becomes a problem when it translates into an absence of accepted responsibility.

The most common symptom of this scattering is the comforting idea that these competencies will develop by themselves. The assumption is that students, exposed to digital technology in their courses, will eventually acquire the expected competencies. Experience shows that this is not the case. Without an explicit description, without integration into the curricula and without assessment, these competencies remain unevenly distributed, depending on individual paths. Making the contract visible means precisely designating who, in the institution, takes charge of which competency, and at what point in the course of study.

The myth of the digital native

A stubborn belief feeds this neglect: that of the digital native. Because they grew up with screens, young people are supposed to be spontaneously competent in handling technologies, which would exempt the institution from training them. This idea is appealing, and it is false. Research has shown it consistently: ease in handling a phone does not translate into critical or methodological competence, and familiarity with social networks implies no ability to evaluate a source or to protect one's data (Bennett, Maton, & Kervin, 2008; Kirschner & De Bruyckere, 2017).

More seriously, this myth masks real inequalities. Believing that all students are equally competent amounts to ignoring the gaps in access, use and mastery that separate them (Brown & Czerniewicz, 2010). By assuming uniform competence, the institution gives up on closing these gaps and leaves each student to rely on their own resources. Abandoning the myth of the digital native is therefore a prerequisite, because it is this myth that justifies inaction. Recognising that digital competence is learned, whatever one's age, opens the way to taking it seriously.

Drawing on all the available frameworks

No single framework covers by itself the full range of students' digital competencies in the age of AI. Instead of choosing one and ignoring the others, a mature institution draws on them together and brings them into dialogue. DigComp provides the general structure of citizens' digital competencies (Vuorikari, Kluzer, & Punie, 2022). Information literacy, as described by the frameworks of university libraries, specifies the practices of searching for,

© Jean-François Van de Poël · CC BY-NC-SA 4.0

evaluating and ethically using information, practices that generative AI makes more crucial still (Association of College and Research Libraries, 2016).

For the part specifically linked to artificial intelligence, two frameworks complement each other. The UNESCO AI competency framework for students organises twelve competencies into four dimensions: a human-centred mindset, the ethics of AI, AI techniques and applications, and AI system design (UNESCO, 2024). The four-dimensional framework presented in the previous chapter offers an operational reading of it, distinguishing essential verification competencies, knowledge of the machine's capabilities, technical literacy and distinctive human capabilities (Van de Poël, 2025). These frameworks shed light on one another. Calling on them together makes it possible to cover both general digital competence and its recent inflections, without reducing competence to just one of its faces.

The use of artificial intelligence, a competency to be developed

The temptation, faced with the sudden arrival of generative AI, is to treat it first as an integrity problem, to be regulated by prohibition. This defensive stance misses the essential point. Students already use these tools, often heavily, and forbidding them merely moves that use out of the institution's sight (Chan & Hu, 2023). A more fruitful approach is to regard the responsible use of AI as a competency to be developed, with its own knowledge, practices and precautions.

This competency has several facets. It requires understanding what these tools can do and what they cannot, keeping a critical eye on outputs that are sometimes confidently wrong, checking sources and documenting one's use (Long & Magerko, 2020). It also involves an ethical dimension: transparency about what has been delegated to the machine, respect for copyright, awareness of bias (UNESCO, 2023). Developing this competency, instead of repressing it, prepares students for a professional world in which AI will be everywhere and in which they will be expected to use it with discernment. Academic integrity keeps its full place: it is built through competence and responsibility more than through surveillance alone.

Autonomy and self-regulation as the horizon

All these competencies converge on the same horizon: a student capable of steering their own learning. Research on self-regulated learning describes this capacity to set goals, choose strategies, assess oneself and adjust one's approach (Zimmerman, 2002). Digital technology, and AI in particular, puts this autonomy to the test. A tool that instantly produces a draft can help an autonomous student go further, or spare another any effort at all, depending on how mature their self-regulation is.

This is why developing digital competencies cannot be separated from developing autonomy. Learning to use AI without submitting to it, to lean on it without giving up on understanding, is exactly a matter of this self-regulation. An institution that aims for technical mastery alone, without cultivating autonomy, risks producing students who are skilful but

© Jean-François Van de Poël · CC BY-NC-SA 4.0

dependent. Conversely, making autonomy the horizon of digital competencies means preparing learners who are able to keep learning long after their studies have ended.

Equity and the digital divide

A domain that concerns all students cannot ignore the inequalities that run through the student body. With the spread of smartphones, the digital divide has shifted. After the gaps in access to equipment, it is now the gaps in use and competence that widen the differences between those who know how to make the most of digital technology and those who are at its mercy (van Dijk, 2020). These gaps often overlap with pre-existing social inequalities, so that ignoring the question of equity amounts to reproducing them.

Taking equity seriously has concrete consequences. It means refraining from presuming that everyone has a powerful computer, a stable connection or an environment conducive to work. It calls for support measures for the students furthest from digital technology, instead of widening the gap by addressing only those who are already at ease. In the age of AI, this vigilance is doubly necessary, because access to the most powerful tools, which often have to be paid for, risks introducing a new dividing line. Equity is a condition for the contract to hold for everyone.

Accessibility, a cross-cutting requirement

In the same spirit, students' digital competencies must be thought through for all students, including those with disabilities. The principles of Universal Design for Learning remind us that an environment designed for diversity from the outset benefits everyone (Meyer, Rose, & Gordon, 2014; CAST, 2024). Accessible resources, materials compatible with assistive technologies and clear instructions are among the conditions for every student to be able to develop their competencies (W3C, 2023). Accessibility runs through the whole domain.

Digital well-being, a neglected competency

Among the five DigComp areas is a dimension that curricula rarely address: safety and digital well-being (Vuorikari, Kluzer, & Punie, 2022). It covers the protection of personal data and vigilance in the face of online manipulation, but also the management of attention and mental load in an environment saturated with demands. These competencies are often held to belong to the private sphere alone, yet they have direct effects on students' studies and health.

Neglecting them amounts to leaving each student to cope alone with real issues, from attention fatigue to exposure to disinformation. Including them among the target competencies, without moralising or lecturing, means giving students bearings so that they can inhabit the digital world without being at its mercy. In the age of AI, when generated content blurs the usual markers of reliability, this competency matters even more. Digital well-being is part of the contract the institution enters into with its students.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Media literacy in the face of disinformation

Alongside information literacy comes a competency that has become vital: media literacy, that is, the ability to decode media messages, to spot manipulation and to place a piece of information in the context in which it was produced. The proliferation of AI-generated content, from plausible but false texts to synthetic images and videos, has made this competency indispensable. Students have never had such a need to know how to doubt, verify and cross-check.

This competency extends the critical verification that the four-dimensional framework places at the heart of our relationship with AI (Van de Poël, 2025). It consists in cultivating a practised discernment, one that distinguishes reliable sources from the rest and knows the mechanisms of disinformation, without tipping into a generalised mistrust that would be paralysing. Including it among the target competencies means preparing citizens who are able to navigate an information space that is saturated and sometimes deceptive. At a time when the boundary between the true and the fabricated is blurring, media literacy has become a condition of intellectual autonomy.

Digital competencies and student success

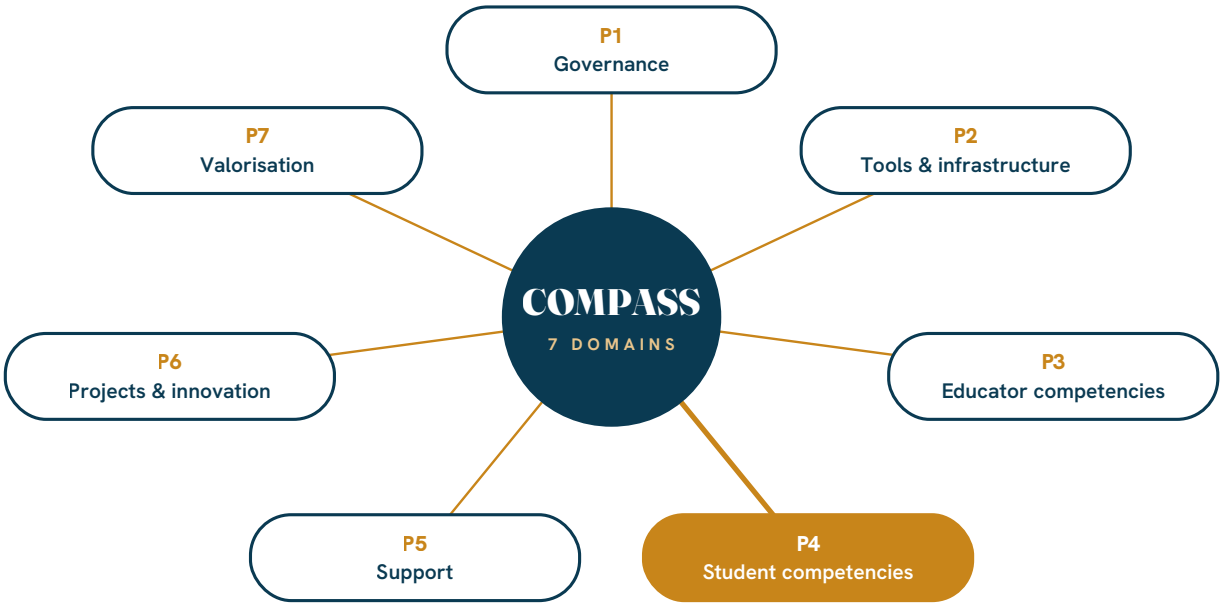
One often neglected argument deserves to be put forward: the link between digital competencies and success in studies. A student who knows how to find reliable information, organise their work with digital tools, collaborate remotely and guard against overload has a real advantage in managing their studies. Conversely, gaps in these competencies weigh silently on success, without always being identified as such. Work on student persistence reminds us that success depends on disciplinary aptitude and on a set of conditions of integration and engagement, of which mastery of the learning environment is a part (Tinto, 2012).

This argument has strategic weight. Presenting digital competencies as a factor in success helps to mobilise an institution that is sometimes reluctant to add to its curricula. They are a condition for students to succeed in what they came to do. Making the contract explicit therefore also serves student success, by tackling obstacles that are often invisible.

The link with the other domains

Student competencies are not built in isolation. They depend on educator competencies, because no one can guide others towards a mastery they do not possess themselves. They rest on the tool portfolio and on the support services. Finally, they sit within a governance that decides, or does not decide, to make them an explicit priority. This domain is the point at which an institution's digital maturity is measured by its effects on those it educates. In this sense, it is the culmination of the preceding ones.

© Jean-François Van de Poël · CC BY-NC-SA 4.0



Student competencies (P4) are the purpose that the six other domains serve.

5.3 The maturity scale applied to student competencies



The five maturity levels, from the lightest (absent) to the darkest (mature).

The five levels make it possible to locate the institution without judging it.

At level 0, students' digital competencies receive no explicit attention. The contract remains entirely invisible, these competencies are assumed to be already there, and nothing is planned to develop or assess them. At level 1, a first awareness emerges. A few educators or services offer one-off actions, a workshop on literature searching, an awareness session on AI, but the whole remains isolated, with no framework and no continuity. At level 2, the approach becomes partially structured. A student competency framework may exist and a few schemes are in place, but their integration into the curriculum is uneven, the question of equity is barely addressed, and the use of AI is not yet thought of as a competency.

At level 3, the domain is deployed. The expected competencies are described in an explicit framework, integrated into the curricula instead of being relegated to the margins, and an arrangement allows students to position themselves. The responsible use of AI is framed

© Jean-François Van de Poël · CC BY-NC-SA 4.0

and taught, accessibility is taken into account, and measures exist to reduce the gaps. At level 4, finally, the domain is mature. The institution knows the competency profile of its students, tracks how it evolves, adjusts its schemes and treats equity as a constant priority. Above all, the once invisible contract has become explicit and owned, written into the programmes and linked to professional realities. A mature institution knows which of its students are competent, in what, and where to direct its effort.

As with the other domains, it is common to move forward on one aspect and lag behind on another, for example to handle literature searching well while ignoring equity or AI. Spotting these imbalances guides action.

5.4 The expected deliverables

A well-run domain produces concrete objects, which make the contract visible and verifiable.

DELIVERABLE	THE PITFALL TO AVOID
An explicit student competency framework	Turning it into a mere showcase document that no course draws on.
Curricular integration	Relegated to optional workshops, it reaches only the most autonomous students.
A self-positioning or diagnostic arrangement	A diagnostic with no follow-up fades away and supports no one.
Guidance on AI use	Reduced to a set of prohibitions, it drives use underground.
Equity measures	Without them, the gaps widen between well-resourced and poorly resourced students.
Accessible resources	Dealt with after the fact, accessibility excludes part of the audience from the start.

An explicit student competency framework. A structured description of what the institution undertakes to develop, grounded in recognised frameworks and adapted to its programmes of study. The pitfall would be to turn it into a showcase document, never translated into the curricula. The framework is only worth something if it genuinely commits the programmes.

Curricular integration. Digital competencies written into courses and study paths, with identified responsibilities, instead of being relegated to optional workshops. The pitfall is outsourcing, which hands these competencies over to peripheral schemes that few students attend.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

A self-positioning or diagnostic arrangement. A means for students to position themselves against the framework, particularly at the start of their studies, in order to direct support. The pitfall would be a diagnostic with no follow-up, which measures without supporting.

Guidance on AI use. Clear reference points on what responsible use of AI covers, programme by programme, conceived as a competency to be developed. The pitfall is the purely defensive stance, which drives use underground.

Equity measures. Concrete measures to ensure that the least well-resourced students are not left behind, from equipment loans to targeted support. The pitfall would be to design every scheme for the average student, thereby widening the gaps.

Accessible resources. Materials and environments designed for the diversity of students, including those with disabilities. The pitfall is to treat accessibility after the fact, as a correction, when it belongs in the design from the start.

As in the previous chapters, these deliverables matter for their effects on students far more than for their formal existence. A framework that shapes no programme, or a diagnostic with no support attached, transforms nothing.

5.5 Putting the development of student competencies in place

Describing competencies is not enough. What is needed are ways of working that make the contract effective and produce effects on students' paths.

Making the contract explicit

The first decision is to name what had remained implicit. Writing into the programme objectives the digital competencies that the institution undertakes to develop turns a diffuse expectation into a verifiable commitment. This exercise has a clarifying virtue: it forces a decision on who takes charge of which competency, and at what point in the curriculum. As long as the contract stays in people's heads, everyone assumes that someone else is taking care of it. Once written down, it becomes everyone's business, and its fulfilment can be monitored. Making the contract explicit costs little and changes everything, because we can only steer what we have named.

Integrating into the curriculum instead of at the margins

The main stumbling block in this domain is outsourcing. Digital competencies are handed over to optional workshops, to a library service or to a self-study platform, outside the curricula. These schemes reach those who seek them out, which often means the most autonomous students, and miss the others. Integrating the competencies into the curriculum, by attaching them to existing courses and to concrete disciplinary situations, is far more effective. A literature searching competency takes root better in a seminar paper than in an abstract workshop, and the critical use of AI is better understood through contact with

© Jean-François Van de Poël · CC BY-NC-SA 4.0

a real disciplinary task. Integration consists in inserting into the programmes, in the right places, what had until then been assumed to be already there, without upending them.

Framing AI as a competency of responsible use

Since the use of AI is treated as a competency, it calls for constructive guidance instead of a simple prohibition. This guidance specifies, programme by programme, what responsible use covers, what is encouraged, what must be documented, and what is still to be done without assistance. It is best drawn up with educators and discussed with students, so that it is understood and not merely endured. Guidance of this kind provides reference points where vagueness used to reign, and it shifts the question from cheating to responsibility. The aim is to build integrity through competence, by teaching students to make transparent and critical use of these tools.

Reducing the gaps

Taking equity seriously translates into concrete measures. Identifying the least well-resourced students, in equipment as well as in competencies, and offering them suitable support prevents the gaps from widening. This may involve equipment loans, accessible workspaces or close, local support. In the age of AI, ensuring that access to the tools does not depend on the ability to pay becomes a new concern. The equity effort is sustained over time, by keeping constantly in mind those whom the standard schemes leave behind.

Linking the competencies to the disciplines and to employability

Finally, digital competencies take on their full meaning when they are linked to the disciplines and to professional prospects. Students understand the usefulness of a competency better when they see it at work in their subject and in their future profession. Anchoring the competencies in the disciplines makes them concrete; linking them to employability gives them a horizon. It is also a way of honouring the contract in full, because what the institution promises, in the end, is to prepare its graduates for a digital world of work and citizenship. A competency that is linked neither to the discipline nor to the future remains abstract, and develops poorly.

Assessing the competencies without distorting them

A delicate question arises as soon as the competencies are taken seriously: that of their assessment. Should they be graded, certified, checked? The answer calls for nuance. Turning digital competencies into high-stakes examinations risks distorting them, by encouraging a cramming that develops no real mastery. Conversely, never assessing them deprives them of the recognition that makes them exist in students' eyes.

A middle way is to favour authentic forms of assessment, anchored in real tasks. A well-conducted piece of documentary research, a transparent and critical use of AI in a project, a portfolio that documents progress say more than an isolated test. This approach ties the assessment of the competencies to that of disciplinary learning, instead of making it a separ-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

ate exercise. It also respects the spirit of the domain, which aims at discernment and autonomy far more than at one-off performance. Assess digital competencies, yes, through what students actually do.

Listening to the student voice

One last principle runs through everything above: involving students in the process. They are the ones who use these tools every day, often before institutions do, and their real practices sometimes differ markedly from what we imagine. Studies that gather students' views on generative AI reveal a mixture of enthusiasm, pragmatic uses and concerns about equity and about their own learning (Chan & Hu, 2023).

Listening to this voice has a double virtue. It makes the schemes more apt, by anchoring them in actual uses instead of in assumptions. It also makes the guidance more acceptable, because a framework discussed with those it concerns is better understood and better respected than an imposed set of rules. Building digital competencies with students as much as for them is probably the best way to honour a contract which, after all, concerns them first and foremost.

5.6 The anti-patterns

Some configurations recur often enough to deserve a name. Spotting them makes it possible to act before they take hold.

ANTI-PATTERN	THE REMEDY
Assuming the competencies are already there	Presume nothing from age: make the contract explicit and develop it.
Outsourcing to the margins of the curricula	Write the competencies into courses and study paths.
The showcase framework	Link each competency to courses and responsibilities.
Handling AI by prohibition alone	Make it a competency to be developed, programme by programme.
Ignoring equity	Provide equipment loans and targeted support.
The diagnostic with no follow-up	Link the positioning to real support.
Reducing competence to technique	Train in judgement, verification and ethics.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

ANTI-PATTERN	THE REMEDY
Forgetting accessibility	Design resources and environments for the diversity of students.

Assuming the competencies are already there. Students are regarded as spontaneously competent because they are young, and nothing is planned. The contract remains invisible and inequalities thrive. The remedy is to abandon the myth of the digital native and to name the expected competencies explicitly.

Outsourcing to the margins of the curricula. The competencies are handed over to optional workshops or to a self-study platform, outside the programmes. Only the most autonomous students benefit. Integrating them into the curriculum, in disciplinary situations, restores their reach.

The showcase framework. A handsome document describes the competencies, but no course takes it into account. It reassures without changing anything. The way out is to link each competency to specific responsibilities and courses.

Handling AI by prohibition alone. Faced with AI, the institution thinks only in terms of cheating and prohibition. Use continues underground, without support. Regarding responsible use as a competency to be developed shifts the problem towards responsibility.

Ignoring equity. Every scheme is designed for an average, well-equipped student, forgetting those who are not. The gaps widen. Providing targeted measures for the least well-resourced corrects this drift.

The diagnostic with no follow-up. Students position themselves, obtain a result, and nothing follows. The process fades away. Linking the diagnostic to support gives it meaning again.

Reducing competence to technique. Students are trained in the tools without being trained in judgement, verification or ethics. They know how to click but not how to discern. Anchoring the competencies in critical thinking and autonomy repairs this imbalance.

Forgetting accessibility. Resources and environments are not designed for the diversity of students, and some find themselves excluded. Building accessibility in from the design stage guarantees that the contract holds for everyone.

5.7 A possible trajectory

Let us imagine a higher education institution where students' digital competencies are described nowhere. At the outset, it stands at level 1. A library service does offer a few search workshops, and one educator raises awareness of AI, but the whole is scattered and reaches

© Jean-François Van de Poël · CC BY-NC-SA 4.0

few people. The arrival of generative AI caught the institution off guard, and the debates crystallise around cheating, with no reflection on competencies.

Instead of multiplying regulations, senior management chooses to make the contract visible. With the teams, it describes a student competency framework grounded in DigComp, information literacy and the UNESCO AI framework. It writes these competencies into a few pilot courses, and not at the margins, and proposes guidance on AI use conceived as a responsible competency, programme by programme. A light diagnostic at the start of studies reveals significant gaps, particularly among the least well-resourced students, and equity measures are put in place. At the next reassessment, the domain reaches level 3: the contract has become explicit, AI is taught as a competency, and equity is among the priorities. Without adding to its curricula, the institution has named and taken charge of what it previously assumed to be already there.

5.8 What accomplished practice looks like

In an institution that is mature in this domain, the once invisible contract is written down and owned. The digital competencies expected of students are described in an explicit framework, grounded in several complementary frameworks, and integrated into the curricula instead of being relegated to the margins. Each competency has an anchor point in a course, and an identified responsibility. Students can position themselves at the start of their studies, and this diagnostic leads on to support.

The use of AI is taught there as a competency of responsible use, with clear reference points for each programme, which shifts the question from cheating to discernment. Equity is a constant concern, with concrete measures for the least well-resourced students, and accessibility runs through all the resources. Above all, these competencies are linked to the disciplines and to employability, so that they do not remain abstract. The domain, once dependent on a few isolated initiatives, is written into the programmes and monitored over time. It is by this continuity, more than by the sophistication of the schemes, that we recognise student competencies taken seriously.

5.9 Where to begin, depending on your starting point

The way forward depends on the level reached. Three scenarios cover most situations.

If you stand at level 0 or 1, the mistake would be to try to build a complete scheme straight away. Start by making the contract visible, by describing, even in outline, the digital competencies your institution undertakes to develop, grounded in a recognised framework such as DigComp. Then choose one or two concrete anchor points in the curricula, instead of creating workshops at the margins. And approach AI as a competency from the outset, by pro-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

posing initial guidance on responsible use, because that is often where expectation and confusion are greatest.

If you are at level 2, your difficulty lies in unevenness and lack of integration. The effort then bears on three fronts. Genuinely integrate the competencies into the curricula, moving away from the logic of optional workshops. Address the question of equity, by identifying the least well-resourced students and offering them support. And turn the guidance on AI into a real, taught competency, programme by programme, and not a set of prohibitions. Cross-referencing a student diagnostic with programme content reveals the precise gaps to be filled.

If you are at level 3, the challenge shifts from description to upkeep and adjustment. Track how the students' competency profile evolves over time. Adjust the framework and the AI guidance as the tools evolve, because nothing ages faster in this domain. Maintain the equity effort as a constant priority, and check that the declared competencies show up in students' actual work. Level 4 is sustained over time.

5.10 The case of small institutions

All this may seem tailored to large universities with many services. Yet it applies to small institutions too. To honour the contract, a small higher education institution needs the same reference points, at its own scale, without any sophisticated set-up. A recognised framework, adopted as it stands, a few anchor points in the curricula and simple guidance on AI use are enough to set things in motion.

Pooling resources is valuable here. The frameworks are public, the literacy frameworks are shared, and nothing prevents several small institutions from building their AI guidance or their equity resources together. The risk specific to small institutions lies elsewhere, in the temptation to expect everything from a few motivated educators. Making the contract explicit, instead of relying on this goodwill, protects the approach on the day those people leave.

5.11 Indicators and questions to ask yourself

This final section brings together what is needed to evaluate the domain and feed the discussion. It is meant to be exhaustive. Not every element will carry the same weight in every institution, but none should be set aside without some thought. Use the indicators to measure and monitor over time, and the questions to position yourself honestly on the scale from 0 to 4.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

The indicators to track

FRAMEWORK AND EXPLICIT CONTRACT

- the existence of a framework of students' digital competencies and the degree to which it has been made official;
- the share of programmes of study whose curricula explicitly mention these competencies;
- the coverage of the various frameworks drawn on, from general digital competence to AI.

CURRICULAR INTEGRATION

- the share of competencies attached to an identified course and not to a scheme at the margins;
- the share of students actually reached by these courses;
- the existence of clearly assigned responsibilities for each competency.

DIAGNOSTIC AND MONITORING

- the share of students who have completed a self-positioning or a diagnostic at the start of their studies;
- the share of diagnostics leading to actual support;
- the monitoring of students' competency profile over time.

USE OF AI

- the existence of guidance on AI use conceived as a competency and not as a simple prohibition;
- the share of programmes with guidance adapted to their disciplinary realities;
- the place given to critical verification and transparency in this guidance.

EQUITY AND ACCESSIBILITY

- the existence of support measures for the least well-resourced students;
- the inclusion of access to AI tools in the equity policy;
- the share of resources meeting accessibility requirements.

EFFECTS

- the translation of declared competencies into students' actual work;
- the link between the target competencies and the professional prospects of the programmes;
- the evolution of the gaps between students over time.

The five key indicators

Among all the indicators of this domain, five deserve to be tracked first. Annex C gives the full catalogue, with the definition, calculation, data source, frequency and owner of each indicator. The targets are benchmarks to adapt to your context.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

KEY INDICATOR	TARGET	WHERE TO FIND THE DATA	FREQUENCY
Entry diagnostic completed Share of incoming students who have completed the digital competencies diagnostic.	**≥ 80% of incoming students (L1/ M1)**	Diagnostic platform, cross-checked with the enrolment register	Annual
Programmes assessing digital competencies Share of study programmes in which at least one course assesses digital competencies with explicit criteria.	**≥ 60%**	Study plans, course plans, assessment rubrics	Annual
AI rules published AI Presence of a common framework on AI use and share of course plans that apply it consistently.	**Present + inter-course consistency**	Course plans, sample audit	Biannual
Helpdesk SLA Responsiveness of the student helpdesk: time to first response and share of requests resolved quickly.	**≤ 24h 1st response; ≥ 80% < 72h**	Ticketing tool	Monthly
Self-declared digital confidence SURVEY Average level of digital confidence reported by students, tracked from one year to the next.	**≥ 4/5 (annual progression)**	Annual student surveys	Annual

The questions to ask yourself

It is worth answering these questions as a group, requiring evidence for every affirmative answer and recording disagreements instead of smoothing them over.

THE CONTRACT AND MAKING IT EXPLICIT

1. Are the digital competencies expected of students described somewhere, as opposed to being assumed?
2. Do these competencies appear in the programme objectives, programme by programme?
3. Is responsibility for each competency assigned to a specific course or service?
4. Have you abandoned the presupposition that students are spontaneously competent because they are young?

THE FRAMEWORKS DRAWN ON

5. Do you rely on a recognised framework such as DigComp for general digital competence?
6. Is information literacy, that is, searching for and evaluating sources, covered?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

7. Is a framework dedicated to AI, such as UNESCO's, drawn on for the competencies specific to these tools?
8. Are these different frameworks articulated with one another, and not merely placed side by side?

INTEGRATION AND DIAGNOSTIC

9. Are the competencies integrated into the curricula, or relegated to optional workshops?
10. Can students position themselves at the start of their studies by means of a diagnostic?
11. Does this diagnostic lead to support, or does it go no further?

THE USE OF AI

12. Is the use of AI approached as a competency to be developed, beyond the question of cheating alone?
13. Is there clear guidance on responsible use, adapted to each programme?
14. Has this guidance been discussed with students, so that it is understood and not merely endured?
15. Is critical verification of AI outputs among the target competencies?

AUTONOMY

16. Do the schemes aim at students' autonomy, or only at technical mastery of tools?
17. Are students taught to lean on AI without giving up on understanding?

EQUITY AND ACCESSIBILITY

18. Do you have measures for the students least well-resourced in equipment or in competencies?
19. Is the question of access to AI tools, which often have to be paid for, taken into account?
20. Are the resources and environments accessible to students with disabilities?
21. Do you design your schemes for the diversity of students, or for an average profile?

EFFECTS AND SUSTAINABILITY

22. Do the declared competencies show up in students' actual work?
23. Are the target competencies linked to the disciplines and to professional prospects?
24. Do you track the evolution of the gaps between students over time?
25. Would the approach survive the departure of the few people who carry it today?

A frank answer to these questions is worth more than a good score. It shows where to direct the effort, and that is exactly what a mature reading of student competencies is supposed to make possible. The idea that runs through this chapter is the one to remember. Students' digital competencies form a contract that the institution enters into with them, a contract too often invisible, which has to be made explicit, integrated into the curricula and monitored over time, without ever losing sight of equity. The use of AI belongs in it too, as a competency of responsible use to be developed. The next chapter leaves competencies behind to look at what sustains them day to day: support and the helpdesk.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P5 · DOMAIN 5

CHAPTER

6

Support and Helpdesk

CHAPTER MAP · FOR A QUICK READ

Why this domain matters. The best tools are useless if an educator who is stuck ten minutes before class cannot find anyone to help. This is the last mile of digital maturity.

THE ROAD TO MATURITY, FROM 0 TO 4

0	1	2	3	4
ABSENT	PILOT	PARTIAL	DEPLOYED	MATURE

KEY DELIVERABLES

- Identified point of entry
- Self-service knowledge base
- Support tiers and escalation
- Support catalogue
- Outreach and proactive support scheme
- Framework for AI in support

ANTI-PATTERNS TO AVOID

- Siloed service desks
- The dead knowledge base
- Support that judges
- The chatbot wall

CROSS-CUTTING REQUIREMENTS, NEVER SUSPENDED

Accessibility | Data protection | Responsible AI

THE KEY IDEA

Mature support shows in the last mile: a clear point of entry, and help that reaches out to people without judging them and leaves no one behind.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

6.1 Why this domain matters

An ambitious strategy, a reliable tool portfolio and well-described competencies are useless if an educator who is stuck at eight in the morning, ten minutes before class, cannot find anyone to help. Support and the helpdesk form what might be called the last mile of digital maturity, the moment when the whole edifice meets people's everyday reality. It is an unspectacular domain, rarely highlighted in institutional discourse, and yet a decisive one. An organisation can have thought everything through upstream and still fail at this final link, for want of help that is accessible at the right moment.

This domain has one distinctive feature: it is experienced from the point of view of the person who needs help. That person does not care whether the problem belongs to the IT department or to the teaching support service. They want to be helped, quickly and well, without having to guess which door to knock on. This is why the common thread of this chapter is joining up: the idea that mature support connects the service desks and offers a coherent experience in which everyone is directed to the right help, whichever door they came in by. This ambition is often called a single point of contact, provided it is understood first and foremost as a continuous experience.

Artificial intelligence runs through this domain in two ways, and the chapter deals with both. On the one hand, it has become a major subject of support, because educators and students alike need help to use it well. On the other, it is a tool for support itself, able to answer common questions or route requests, provided it is used with discernment. Thinking about support today means holding these two dimensions together.

6.2 Understanding this domain

What support covers

Support, in the sense of this domain, covers everything that helps a person overcome an obstacle in their use of digital technology, from the most trivial breakdown to the most elaborate pedagogical advice. Two broad sides can be distinguished, and organisations often keep them apart. Technical support responds to incidents and to difficulties in using tools: a forgotten password, a function that cannot be found, a platform that will not cooperate. Pedagogical support, for its part, helps with design, with rethinking an assessment, with integrating a tool into a teaching scenario. Between the two lies a continuum.

This domain also covers very diverse forms of help, which it would be reductive to overlook. There is self-service: the resources that let people solve a problem on their own, such as tutorials, frequently asked questions and knowledge bases. There is reactive support, called on when a problem arises. There is close, longer-term support, which follows a person over

© Jean-François Van de Poël · CC BY-NC-SA 4.0

time. Lastly, there is proactive support, which anticipates difficulties instead of waiting for the request. A mature domain combines these forms according to need.

From technical troubleshooting to learning design

It is useful to picture support as a continuum instead of a set of boxes. At one end are simple, frequent requests, resolved in a few minutes, such as resetting access. At the other are long, tailor-made engagements, such as completely rethinking a course around a new approach. In between lies an infinity of intermediate situations. Seeing support as a continuum has one virtue: it is a reminder that the same need can shift from one side to the other. A question that seems technical, about how a tool works, often conceals a pedagogical intention, and it is by understanding that intention that we really help.

Pedagogical support, in particular, benefits from being thought of as shared design work. Designing teaching is a genuine design process, in which solutions are tested, adjusted and documented (Laurillard, 2012). Supporting, in this case, means sustaining a line of thinking and equipping a design effort. This dimension distinguishes pedagogical support from simple troubleshooting, and it explains why it calls for different skills and a different amount of time.

The idea of a single point of contact

The single point of contact responds to a very concrete problem: people being passed from one service to another without ever finding someone to talk to. Faced with a difficulty, an educator should not have to diagnose for themselves whether their problem is technical or pedagogical, nor know their institution's organisation chart. The idea of the single point of contact is that there is a clear point of entry, where people are received and then directed to the right help, without having to start their explanation again at every step.

One misunderstanding must be avoided. The single point of contact can exist without a physical location or a service that does everything: it is first of all an experience, that of never coming up against a closed door or an endless referral. In practice, it often rests on several services working together, with a shared point of entry and clear handover rules. What matters, from the point of view of the person being helped, is continuity: the feeling that the institution is coordinating itself on their behalf instead of making them bear the weight of its disorganisation.

Support tiers and escalation

Effective support is organised in tiers, from the most autonomous to the most expert. The first tier is self-service, where people find the answer themselves in a well-maintained knowledge base. The second is generalist support, able to handle the majority of routine requests. The third calls on specialists, technical or pedagogical, for complex cases. What is known as escalation is the regulated passage from one tier to the next, when a request exceeds the tier it has reached.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

When well designed, this tiered organisation aims to answer simple questions quickly, without calling on experts unnecessarily, while guaranteeing that difficult cases reach the right expertise. Self-service plays an underestimated role here, because a clear knowledge base resolves a substantial share of requests on its own, freeing up time for the support that really needs it.

Why people do not ask for help

A domain centred on help must look at a paradox: the people who need help and do not ask for it. Research on help-seeking has shown that asking for support is far from straightforward, because it means acknowledging a difficulty, which many experience as an admission of incompetence (Karabenick, 2003). In a large institution, anonymity and the fear of being judged make this reluctance worse, so that those who struggle most are often those who ask least.

This finding has direct consequences for the design of support. Making help easy to ask for, non-stigmatising and visible becomes an objective in its own right. This involves varied channels, a welcoming reception, and communication that normalises asking for help. Proactive support, which reaches out to people instead of waiting for their request, partly closes this gap. To ignore how hard it is to ask is to risk helping only those who are already doing best.

Pedagogical support and learning design

The pedagogical side of support deserves particular attention, because it is often the least structured. Teaching and learning centres, where they exist, play a decisive role in spreading good practice and in supporting educators (Sorcinelli, Austin, Eddy, & Beach, 2006). Their mission goes beyond troubleshooting: it involves advice, design and sometimes applied research on teaching.

This support benefits from being linked with the professional development discussed in chapter 4, without being confused with it. Training develops competencies upstream; support helps to put them into practice at the moment the need arises, as close as possible to practice. The two reinforce each other, because good support feeds training needs, and solid training makes support more effective. Here again, joining up matters more than separation.

Artificial intelligence as a subject of support

Generative AI has created an unprecedented demand for support. Educators and students need help to understand these tools, to evaluate what they produce and to integrate them appropriately. This support goes beyond technical questions and touches on judgement, ethics and assessment design (Long & Magerko, 2020; UNESCO, 2023). Support staff must therefore upskill on this subject, or people will be left alone with a technology that is unsettling their practice.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

This demand is all the stronger for being diffuse and often implicit. Many people do not dare ask for help with AI, for fear of seeming out of their depth or, conversely, of being suspected of wanting to cheat. Support that addresses AI openly, as a legitimate subject, removes these barriers. It makes the institution a place where people can learn to use these tools with confidence, instead of a space of mistrust.

Artificial intelligence as a support tool

AI also offers new means for support itself. Conversational agents can answer the most frequent questions, route requests and guide people through simple procedures at any hour. One striking experiment, conducted at a large university, showed that a conversational assistant could markedly reduce the number of students dropping out between admission and the start of term, by guiding them through their procedures at limited human cost (Page & Gehlbach, 2017). Such tools promise support that is available around the clock and able to absorb repetitive requests.

This promise nevertheless calls for caution. The same line of research later showed that these agents are not uniformly effective, and that their usefulness depends heavily on the intended audience and on how they are targeted (Nurshatayeva, Page, White, & Gehlbach, 2021). A poorly designed chatbot can frustrate more than it helps, trap people in generic answers or hide the human recourse they need. AI in support is therefore a lever. It frees up time for complex support, provided it remains a door to a human being.

The accessibility of support itself

One point that is too often neglected deserves emphasis: support must be accessible to everyone, including people with disabilities. A knowledge base that assistive technologies cannot read, a support channel that cannot be used with a keyboard, a chatbot that is incompatible with a screen reader all exclude precisely those who most need help (W3C, 2023; CAST, 2024). Thinking about the accessibility of support, on the same footing as that of teaching content, is part of mature support.

Prevention before repair

Support is often thought of as repair, a response to a problem that has already occurred. Yet some difficulties can be anticipated, and therefore avoided. When a new tool is deployed, planning support resources, contact points and clear communication from the outset considerably reduces the flood of requests that would otherwise follow. Likewise, identifying the critical moments of the year, such as examination periods or the start of term, makes it possible to reinforce support before the pressure builds.

This logic of prevention echoes the lessons learned about digital adoption, which show that many obstacles stem from a lack of anticipation as much as from reluctance in principle (Ertmer & Ottenbreit-Leftwich, 2010). Anticipating difficulties, in addition to responding to them, lightens the load on support while improving people's experience. Mature support de-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

votes part of its energy to prevention, knowing that a problem avoided always costs less than a problem repaired.

Support over time

Not all forms of help come down to a one-off intervention. Some difficulties, pedagogical ones in particular, call for support over time, in which a person or a team is followed over several weeks or months. Rethinking a course, adopting a new approach to assessment or integrating AI into a course is a journey that takes several exchanges.

This long-term support has requirements of its own. It presupposes a relationship of trust, availability that is sustained over time and the ability to support without doing the work in the person's place. It is clearly distinct from troubleshooting, and an institution that offered only immediate help would leave the deepest transformations unanswered. Providing long forms of support, alongside reactive support, is part of a complete set-up. It is often over this longer span that the most significant changes in practice take place.

Support as the institution's sensor

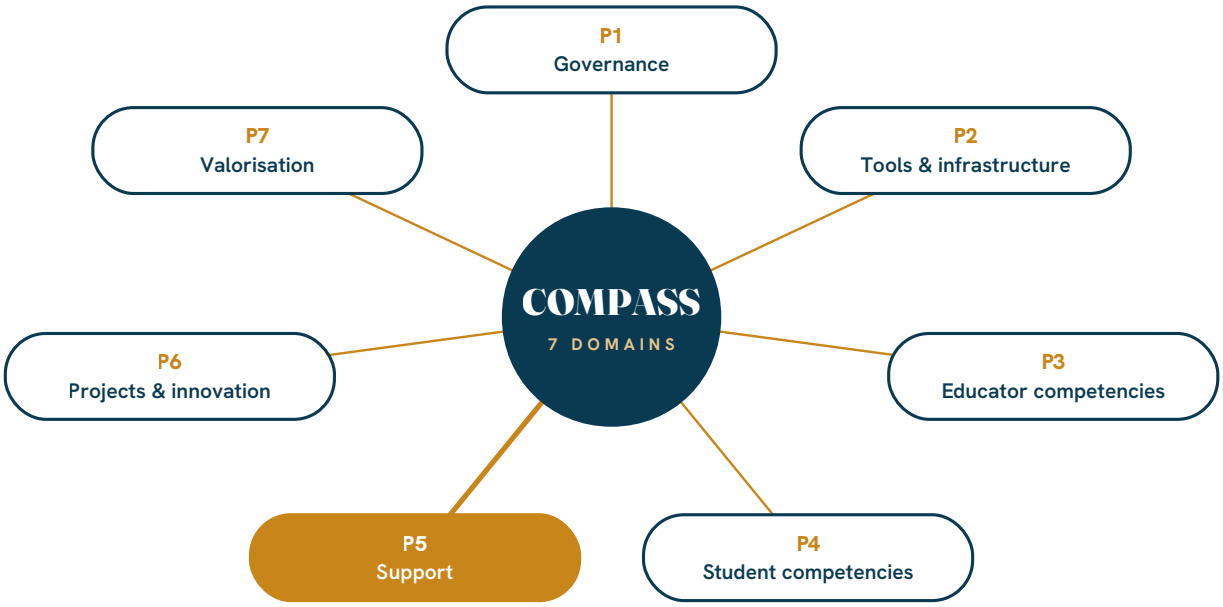
One role of support is often overlooked: that of sensor. Because it receives people's real difficulties, support holds valuable knowledge of what is working badly in the institution. A question that keeps coming back may point to a poorly designed tool, a missing training course or an unclear instruction. By passing these signals on, support feeds all the other domains, from the tool portfolio to professional development.

This feedback still has to be organised. Support that merely resolves requests one by one, without ever analysing trends, deprives itself of this value. Devoting a little time to spotting recurring patterns, and to passing them on to the services concerned, turns support into a source of continuous improvement. In doing so, the last mile of digital maturity also becomes a privileged vantage point on the whole journey.

The link with the other domains

Support is a domain that is deeply connected to the others. It sustains the application of the competencies described in the previous chapters, it relies on the tool portfolio, and it extends professional development. It depends on governance that decides to devote resources to it, because good support has a cost. In return, it feeds back valuable knowledge of real difficulties, useful to all the other domains. When well joined up, it is the point at which the institution shows, very concretely, that it takes care of its people.

© Jean-François Van de Poël · CC BY-NC-SA 4.0



Support (P5) is the last mile that makes the six other domains useful day to day.

6.3 The maturity scale applied to support



The five maturity levels, from the lightest (absent) to the darkest (mature).

The five levels make it possible to situate the institution without judging it.

At level 0, support is non-existent or purely informal. People manage on their own, ask a colleague, or give up. No point of entry is identified, and difficulties are resolved according to who happens to know whom. At level 1, arrangements appear, but they are fragmented. An IT department handles incidents and a teaching support service gives advice, with no coordination between them, and people have to guess where to turn. At level 2, support becomes partially structured. A point of entry may exist and a knowledge base has been started, but the link between the technical and the pedagogical remains weak, the support tiers are blurred, and AI is treated neither as a subject nor as a tool.

At level 3, the domain is deployed. A clear point of entry routes requests, the support tiers and escalation are defined, self-service is developed, and technical support is joined up with pedagogical support. AI is taken on as a subject of support, and its use as a support tool is ex-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

plored with discernment. At level 4, finally, the domain is mature. The single point of contact experience is real, whichever door people come in by, proactive support complements reactive support, the quality of support is monitored, and accessibility is guaranteed. Above all, this quality is organised and lasting, independent of a few dedicated individuals. A mature institution knows that its people will be helped quickly and well, and it checks that this is so.

As with the other domains, it is common to advance on one side and lag behind on another, for example to have effective technical support but no pedagogical support. Identifying these imbalances guides the effort.

6.4 The expected deliverables

A well-run domain produces concrete objects, which make help visible and reliable.

DELIVERABLE	THE PITFALL TO AVOID
An identified point of entry	Without it, people are sent from one service to another and lose heart.
A self-service knowledge base	Out of date or impossible to find, it is no longer consulted by anyone.
Support tiers and escalation rules	Without regulated handovers, requests get lost between generalists and experts.
A pedagogical support catalogue	When it is invisible, advice benefits only those in the know.
An outreach and proactive support scheme	Passive help never reaches those who do not dare to ask.
A framework for AI in support	Without guidelines, AI in support traps people in generic answers.

An identified point of entry. A clear way of asking for help, known to everyone, which receives and directs people without sending them from one service to another. The pitfall would be to multiply competing points of entry, which reproduce the very confusion they claim to resolve.

A self-service knowledge base. Up-to-date resources that let people solve problems on their own, from tutorials to answers to frequently asked questions. The pitfall is the knowledge base that is out of date or impossible to find, which disappoints people and turns them away from self-service for a long time.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Support tiers and escalation rules. A clear organisation for handling requests, from generalist to expert, with regulated handovers. The pitfall would be opaque escalation, in which requests get lost between tiers.

A pedagogical support catalogue. A clear offer of advice and learning design, distinct from troubleshooting, with identified contacts. The pitfall is invisible pedagogical support, which only those in the know are able to call on.

An outreach and proactive support scheme. Forms of help that reach out to people, in particular those who do not dare to ask. The pitfall would be to help only those who ask, widening the gap with everyone else.

A framework for AI in support. Guidelines on supporting uses of AI, and on the possible use of AI tools in support itself, with human recourse maintained. The pitfall is the chatbot that replaces the human being instead of directing people to one.

As in the previous chapters, these deliverables are worth only the real experience they give the people being helped. A point of entry that nobody knows about or a knowledge base that nobody updates helps no one.

6.5 Putting in place support that lasts

Having support services is not enough. What is also needed are ways of working that produce a coherent and lasting experience.

Building a single point of entry

The first decision is to offer a clear point of entry. Instead of leaving people to look for the right service, the institution sets up a shared reception, known to everyone, which takes in the request and routes it. This point of entry can take several forms, a desk, an address, a platform; the essential thing is that it is visible and never refers anyone on without having taken charge of the request. Building this point of entry means coordinating across services, which is often the real challenge, and an organisational one. It is by agreeing to collaborate across internal boundaries that the institution offers the experience of continuity it is aiming for.

Organising the tiers and escalation

Once the point of entry is established, the handling of requests has to be organised. Defining tiers, from self-service to specialist, and clear rules for moving from one to the next, makes it possible to respond quickly without wasting scarce expertise. The challenge is to find the right balance, so that simple questions are resolved immediately and complex cases reach the right expertise without wandering. Tracking requests, even lightly, helps to spot bottlenecks and to avoid losing cases along the way. Escalation is useful only if it is smooth and transparent for the person being helped.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Making help easy to ask for

Since asking for help is far from straightforward, the barriers have to be actively removed. This starts with visibility: help that cannot be found does not exist. It involves a variety of channels, so that everyone finds the one that suits them. Above all, it requires a reception that does not judge, where acknowledging a difficulty exposes no one to condescension. Normalising the act of asking for help, by presenting it as an ordinary practice, transforms people's relationship with support. Proactive support complements this approach, by reaching out to people who would otherwise remain on the sidelines.

Joining up the technical and the pedagogical

The heart of this domain is the link between the two sides of support. In practice, this requires bridges between technical and pedagogical services, a shared culture and habits of collaboration. When a technical request reveals a pedagogical need, or the reverse, the handover must happen naturally, without the person having to explain everything again. This link is built through shared working spaces, mutual knowledge of each other's services and a shared language. It is what turns a collection of service desks into coherent support.

Introducing AI into support with discernment

Introducing AI tools into support calls for method and caution. It pays to start with the most repetitive requests, those where a conversational agent gives a reliable answer, while guaranteeing easy access to a human contact. It is essential to test these tools with the audiences concerned, because their effectiveness varies widely from one situation to another (Nurshatayeva, Page, White, & Gehlbach, 2021). An AI tool in support must be evaluated in use, adjusted, and withdrawn if it degrades the experience. The golden rule is that it directs people to a human being instead of replacing one, and that it frees up time for complex support.

Documenting and building on experience

Mature support learns from itself. Documenting recurring requests feeds the knowledge base and strengthens self-service, which reduces the number of requests accordingly. Capturing pedagogical solutions, by representing them as reusable patterns, means not starting from scratch every time and spreading good ideas beyond their point of origin (Laurillard, 2012). This organised memory distinguishes support that progresses from support that endlessly repeats the same answers. It also connects this domain to communities of practice, where sharing among peers extends this accumulated knowledge (Wenger, McDermott, & Snyder, 2002).

Measuring quality as much as volume

One pitfall lies in wait for the evaluation of support: measuring only what is easy to count. The number of requests handled, response times and resolution rates provide information about activity, and say nothing about the quality of the help received. A request closed

© Jean-François Van de Poël · CC BY-NC-SA 4.0

quickly can leave the person dissatisfied, and a flattering indicator can mask a frustrating experience.

Measuring quality means listening to the people who have been helped, through simple feedback on their satisfaction and on how useful the help really was. It also means taking an interest in those who did not ask for help, and who by definition escape the activity statistics. A good support dashboard therefore combines measures of volume and measures of experience, without confusing the two. What we are looking for, in the end, is for people to feel that they have actually been helped.

Local contacts and peer support

Support also relies on people other than the dedicated services. A substantial share of help comes through peers, the colleagues or fellow students people turn to first, often before any official service. Recognising and supporting this mutual help, instead of ignoring it, multiplies an institution's capacity for support. Local contacts, educators or students identified as sources of help among those around them, extend formal support as close as possible to where it is needed.

This mutual help follows the logic of communities of practice, where learning takes place through exchange among those who share the same situations (Lave & Wenger, 1991). Equipping these contacts, giving them light training and connecting them to official support avoids two dangers: leaving them alone to carry a load that is too much for them, and spreading approximate answers. When well joined up with the rest of the set-up, peer support is one of the most powerful and least costly levers of good support.

6.6 The anti-patterns

Some configurations recur often enough to deserve a name. Spotting them makes it possible to act before they take hold.

ANTI-PATTERN	THE REMEDY
Siloed service desks	Connect technical support and pedagogical support.
Referral without follow-through	Make sure the person is actually received, without explaining everything again.
The dead knowledge base	Keep it up to date and make it findable.
Helping only those who ask	Reach out to people, especially those who do not dare.
Support that judges	Receive people without making them feel they "should have known".

© Jean-François Van de Poël · CC BY-NC-SA 4.0

ANTI-PATTERN	THE REMEDY
The chatbot wall	Always leave a door to a human being.
Invisible pedagogical support	Make it clear and known to everyone.
Inaccessible support	Make channels, knowledge base and chatbot usable by everyone.

Siloed service desks. Technical support and pedagogical support ignore each other, and the person is sent endlessly from one to the other. The experience is that of a maze. The remedy is a shared point of entry and clear handover rules.

Referral without follow-through. The person is pointed to another service, with no assurance that they will be received there, and they start their explanation again from scratch. Mature support accompanies the handover; it does not simply redirect.

The dead knowledge base. Self-service resources exist, but they are out of date or impossible to find, so that nobody consults them any more. Yet a living knowledge base, kept up to date and easy to access, resolves a large share of requests.

Helping only those who ask. Support waits passively for requests, and never reaches those who do not dare to ask. Proactive support, which reaches out to people, corrects this bias.

Support that judges. Unintentionally, the reception makes the person feel that they should have known. Shame sets in and requests become rarer. Normalising the act of asking for help restores trust.

The chatbot wall. An AI agent is deployed to filter requests, but it traps people in generic answers with no access to a human being. The remedy is to make every AI tool a door to a human being.

Invisible pedagogical support. Advice and learning design exist, but so discreetly that only those in the know are aware of them. Making this offer clear and linking it to technical support brings it into existence for everyone.

Inaccessible support. The help channels, the knowledge base or the chatbot cannot be used by people with disabilities. Thinking about the accessibility of support from the design stage guarantees that it really helps everyone.

6.7 A possible trajectory

Let us imagine a higher education institution where support is fragmented. At the outset, it stands at level 1. The IT department handles technical incidents and an isolated educational adviser helps a few educators, but the two ignore each other. People do not know whom to

© Jean-François Van de Poël · CC BY-NC-SA 4.0

contact, and the arrival of generative AI has triggered an explosion of questions that nobody clearly takes charge of. A snapshot reveals the absence of a point of entry and the absence of any joining up.

Instead of creating a new service, senior management chooses to join up what already exists. It sets up a shared point of entry, known to everyone, which takes in requests and routes them. It establishes simple handover rules between the technical and the pedagogical, and starts a self-service knowledge base. It states clearly who supports uses of AI, making this subject a legitimate reason for a request. A year later, the domain reaches level 3: people know where to turn, the handover between the two sides is smooth, and AI is supported openly. The institution has made coherent what was scattered, without any heavy structure.

6.8 What accomplished practice looks like

In an institution that is mature in this domain, a person in difficulty knows immediately where to ask for help, and they are taken care of without having to guess at the internal organisation. Whichever door they come in by, they are directed to the right expertise, technical or pedagogical, and the handover takes place without their having to explain everything again. A living knowledge base often lets them solve the problem on their own, and close support stays with them over time when the need calls for it.

Support also reaches out to those who do not dare to ask, and the reception never judges. AI is present twice over, as a subject of support that is addressed openly, and as a support tool used with discernment, always as a door to a human being. Support is accessible to everyone, including people with disabilities. Above all, this quality is organised and monitored, so that it no longer depends on the dedication of a few individuals. It is by this continuity that support that has reached maturity can be recognised.

6.9 Where to begin, depending on your starting point

The way forward depends on the level reached. Three scenarios cover most situations.

If you are at level 0 or 1, the mistake would be to try to build a sophisticated set-up straight away. Start by establishing a clear point of entry, however simple, known to everyone, which receives and routes requests. Start a knowledge base with the most frequent questions, because it will quickly relieve support. And state explicitly who supports uses of AI, since this is now a major source of unanswered questions. These first steps bring coherence where there was fragmentation.

If you are at level 2, your difficulty lies in a lack of joining up and of clarity. The effort then bears on three fronts. Organise the support tiers and the escalation rules, so that requests no longer get lost. Build real bridges between the technical and the pedagogical, through

© Jean-François Van de Poël · CC BY-NC-SA 4.0

shared working spaces. And make pedagogical support visible, by taking it out of the circle of those in the know. Exploring, with caution, an AI tool for repetitive requests can free up time at this stage.

If you are at level 3, the task becomes one of refining and maintaining. Develop proactive support, to reach those who do not ask. Monitor the quality of support, beyond the mere volume of requests handled. Check the accessibility of all your help channels. And evaluate the AI tools used in support regularly, so as to adjust or withdraw them according to their real effects. Level 4 has to be won, and then maintained.

6.10 The case of small institutions

All this may seem tailored to large institutions with many services. Yet it applies to small institutions too. In a small higher education institution, support often rests on one or two people who do everything, and that is precisely where joining up matters most. The single point of entry is almost natural there, since everyone knows everyone, but it is worth formalising so that it does not depend on a single person.

Pooling resources is valuable here. A knowledge base can be shared between institutions, specialised support can be pooled, and nothing prevents institutions from drawing together on external resources for the most specialised questions. The risk specific to small institutions is dependence on the go-to person, whose departure leaves a gaping hole. Documenting solutions, formalising the point of entry and capturing answers protect the institution from this fragility.

6.11 Indicators and questions to ask yourself

This final section brings together what is needed to assess the domain and to feed the discussion. It is intended to be exhaustive. Not every item will carry the same weight in every institution, but none should be set aside without thought. Use the indicators to measure and to monitor over time, and the questions to position yourself honestly on the scale from 0 to 4.

Indicators to monitor

POINT OF ENTRY AND ROUTING

- the existence of an identified point of entry and how well known it is among the people it serves;
- the share of requests taken in charge without an unaccompanied referral;
- the average time between the request and a first response.

SUPPORT TIERS AND RESOLUTION

- the share of requests resolved at the first tier, without escalation;

© Jean-François Van de Poël · CC BY-NC-SA 4.0

- the share of requests resolved through self-service;
- the share of requests lost or left unanswered.

SELF-SERVICE AND KNOWLEDGE CAPTURE

- how current the knowledge base is and how much it covers;
- how often self-service resources are consulted;
- the share of recurring solutions that are actually documented.

LINKING TECHNICAL AND PEDAGOGICAL SUPPORT

- the existence of bridges and handover rules between the two sides;
- the share of requests that require both sides and are handled smoothly;
- the clarity of the pedagogical support offer.

SUPPORT FOR AI AND AI TOOLS

- explicit provision for uses of AI as a reason for a request;
- regular evaluation of any AI tools used in support;
- easy access to a human contact being maintained.

PROACTIVITY, EQUITY AND ACCESSIBILITY

- the existence of proactive schemes that reach out to people who do not ask;
- the accessibility of the support channels and of the knowledge base;
- monitoring of satisfaction and of the perceived quality of support.

The five key indicators

Among all the indicators of this domain, five deserve to be tracked first. Annex C gives the full catalogue, with the definition, calculation, data source, frequency and owner of each indicator. The targets are benchmarks to adapt to your context.

KEY INDICATOR	TARGET	WHERE TO FIND THE DATA	FREQUENCY
1st response Time between the submission of a request and the first response from a member of the support team.	**Median ≤ 8h; ≥ 90% < 24h**	Ticketing tool	Monthly
KB freshness (incl. AI sheets) AI Share of knowledge base articles, AI sheets included, created or revised less than 12 months ago.	**≥ 90% < 12 months**	Knowledge base, date of last revision	Quarterly
Clinic appointment delay Time between the request for a clinic or consultation appointment and the appointment itself.	**Median ≤ 7d; ≥ 80% < 10d**	Booking system, clinic agenda	Monthly

© Jean-François Van de Poël · CC BY-NC-SA 4.0

KEY INDICATOR	TARGET	WHERE TO FIND THE DATA	FREQUENCY
False-positive procedure (plagiarism / AI) AI Existence of a published procedure for handling a suspicion of plagiarism or AI use, with a right to explanation and an appeal route.	**Published, with appeal route**	Study regulations, help portal, quality unit	Annual
Overall support NPS SURVEY Recommendation and satisfaction expressed by users after a help request.	**NPS > 0; CSAT ≥ 4/5**	Post-ticket satisfaction surveys, quarterly summary	Quarterly

Questions to ask yourself

It pays to answer these questions as a group, requiring evidence for every affirmative answer, and recording disagreements instead of smoothing them over.

THE POINT OF ENTRY AND ROUTING

1. Does a person in difficulty know immediately where to ask for help?
2. Is there a shared point of entry, as opposed to competing service desks?
3. Are requests taken in charge and routed, and not referred on with no follow-up?
4. Is the person spared having to explain their problem again at every step?

THE TIERS AND SELF-SERVICE

5. Is the handling of requests organised in tiers, from self-service to specialist?
6. Are the escalation rules clear and smooth for the person being helped?
7. Do you have a knowledge base that is up to date and easy to find?
8. Does self-service resolve a significant share of routine requests?

JOINING UP THE TWO SIDES

9. Are technical support and pedagogical support joined up, or siloed?
10. Does the handover between the two sides happen naturally, with nothing lost for the person?
11. Is the pedagogical support offer visible and clear to everyone?

HELP-SEEKING AND PROACTIVITY

12. Have you thought about those who do not dare to ask for help?
13. Does the reception normalise asking for help, and not stigmatise it?
14. Are there proactive schemes that reach out to people?

ARTIFICIAL INTELLIGENCE

15. Are uses of AI supported openly, as a legitimate subject?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

16. Do any AI tools used in support direct people to a human being, and not take that person's place?
17. Are these tools evaluated in use, and adjusted or withdrawn according to their effects?

ACCESSIBILITY AND SUSTAINABILITY

18. Are the support channels and the knowledge base accessible to people with disabilities?
19. Is the quality of support monitored, beyond the mere volume handled?
20. Are solutions documented and captured, and not reinvented every time?
21. Would the quality of support survive the departure of the few people who carry it?

A frank answer to these questions is worth more than a good score. It shows where to direct the effort, and that is exactly what a mature reading of support is supposed to make possible. The idea to remember is the one that runs through this chapter. Mature support is judged by the experience of continuity it offers people, the assurance of being helped quickly and well, whichever door they knock on. AI has a double place in it, as a subject to be supported and as a tool to be placed at the service of people. The next chapter leaves day-to-day support behind and turns to what drives the institution to surpass itself: projects and innovation.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P6 · DOMAIN 6

CHAPTER

7

Projects and Innovation

CHAPTER MAP · FOR A QUICK READ

Why this domain matters. An institution that stops experimenting condemns itself to repetition. It is through projects and innovation that an institution renews its practices and adapts to a fast-moving world, as generative AI has shown.

THE ROAD TO MATURITY, FROM 0 TO 4

0	1	2	3	4
ABSENT	PILOT	PARTIAL	DEPLOYED	MATURE

KEY DELIVERABLES

- Horizon-scanning arrangement
- Framework for launching and evaluating a pilot
- Project portfolio
- Scaling-up criteria
- Space and right to experiment
- Ethical framing of experimentation

ANTI-PATTERNS TO AVOID

- Pilotitis
- Innovation theatre
- The race for the shiny tool
- Experimentation without ethics

CROSS-CUTTING REQUIREMENTS, NEVER SUSPENDED

Accessibility | Data protection | Responsible AI

THE KEY IDEA

Mature innovation is counted in practices that have become permanent and that outlast the departure of their pioneers.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

7.1 Why this domain matters

An institution that stops experimenting condemns itself to repetition. Projects and innovation is the domain through which an institution renews its practices, tests new ideas and adapts to a fast-moving environment, as the recent arrival of generative artificial intelligence shows. Without this capacity to explore, digital maturity sets hard, and the institution ends up undergoing change rather than leading it. Innovation is therefore a vital function.

But innovation is fragile, and that is what makes this domain delicate. How many promising pilots die because they were never evaluated or made permanent. How many grassroots initiatives vanish when the person who carried them leaves. How many projects launched from the top never take root on the ground. This domain consists precisely in turning a diffuse capacity for tinkering into an organised capacity for innovation, without smothering it under procedure. The thread running through this chapter is that balance: a framework that authorises and supports initiatives without restraining them, and that ties them to a strategic direction.

This balance echoes the definition of maturity that runs through this book. A domain is mature only when its successes outlast the departure of those who launched them. Innovation is precisely where this requirement is hardest to meet, because it often rests on the energy of a few pioneers. Keeping innovation alive beyond individuals is what this domain is all about. Artificial intelligence has a dual place in it: as an object of innovation, given how many uses there are to explore, and as an accelerator, offering new ways to experiment and prototype. The chapter deals with both.

7.2 Understanding this domain

What this domain covers

Projects and innovation cover everything in an institution that involves the deliberate exploration of new practices. This includes horizon scanning, the attention paid to what is being done elsewhere and to what is emerging. It includes experimentation, in the form of pilots run on a small scale. It includes project management, which structures these efforts over time. It includes the evaluation of experiments, which decides what happens to them next. And it includes scaling up, the critical moment when a local success becomes a widespread and lasting practice.

This domain is distinct from the preceding ones, even though it touches all of them. Here the task is to explore what is not yet established, rather than to support everyday uses. This orientation towards the new gives it its specific character and its own risks, because to in-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

novate is to accept a measure of uncertainty and failure. A mature domain seeks to make that risk bearable and fruitful, because removing it would mean giving up on innovation.

Innovation from below and steering from above

Two views of innovation often coexist in institutions, and setting them against each other is a mistake. The first sees innovation as arising from the ground, carried by educators who experiment in their courses. The second sees it as steered from above, through a strategy and a project portfolio decided by the institution. Each has its strengths and its limits. Grassroots innovation is alive and anchored in real needs, but it often remains isolated and fragile. Steered innovation has resources and reach, but it risks imposing solutions disconnected from practice.

The fruitful path is to connect the two rather than to choose. A well-designed framework supports grassroots initiatives, giving them resources, visibility and a right to experiment, while linking them to a strategic direction that prevents dispersion. This framework makes innovation possible and makes it bear fruit. It is this balanced stance, between authorisation and direction, that distinguishes institutions truly capable of innovating from those that merely talk about it.

Exploring without ceasing to exploit

A fundamental tension runs through any organisation that innovates: the tension between exploration and exploitation. Research on organisational learning has shown that every institution must both exploit what it already knows how to do, in order to remain effective, and explore new paths, in order not to ossify (March, 1991). These two logics compete for the same resources, and an imbalance in either direction is dangerous. Too much exploitation, and the institution locks itself into its routines until it becomes obsolete. Too much exploration, and it wears itself out on projects without ever consolidating what it has gained.

This theoretical framework sheds light on how innovation should be led. It is a reminder that innovating means setting aside a protected space for exploration alongside day-to-day operations, without reinventing everything all the time. It also explains why innovation needs a distinct framework, with its own rules and its own tolerance for uncertainty, because an experiment is not steered in the way an established operation is managed. Acknowledging this tension, rather than denying it, helps to calibrate the innovation effort without endangering everything else.

Diffusing an innovation

An innovation that stays confined to its inventors transforms nothing. The question of its diffusion is therefore central, and it has been studied extensively. The classic work on the diffusion of innovations has shown that a novelty spreads all the faster when it has certain characteristics: a clear relative advantage over what exists, compatibility with established practices, ease of use, the possibility of trying it without a heavy commitment, and results

© Jean-François Van de Poël · CC BY-NC-SA 4.0

that are visible to others (Rogers, 2003). An innovation that fails to spread often falls short on one of these points, regardless of its intrinsic value.

This work has also shown that people do not adopt a novelty at the same pace. A few pioneers start early, followed by a more cautious majority, while others resist for a long time. Understanding this dynamic avoids two mistakes: believing that an innovation adopted by the enthusiasts will spontaneously be adopted by everyone, and judging a whole community by its most reluctant members. Thinking about diffusion means supporting this journey rather than decreeing it.

Scaling up, beyond numbers

Scaling up is the moment when an innovation stops being a pilot and becomes a widespread practice. It is also the stage at which the most initiatives fail. A common mistake is to reduce this step to a question of numbers, as if extending an innovation meant reproducing it mechanically in more courses or faculties. Research on the subject has shown that genuine scaling up has several dimensions: the depth of the change in practices, its sustainability over time, its spread in numbers, and the shift of its ownership to the people who implement it (Coburn, 2003).

This richer conception has practical consequences. It is a reminder that an innovation does not scale up if it remains superficial, if it depends on conditions that cannot be reproduced, or if it stays the property of its initiators. True scaling up requires the innovation to be deep enough, adaptable enough and sufficiently owned by others to live without its inventors. Here we meet the definition of maturity again: a practice is firmly established only when it outlasts the departure of those who launched it.

Experimenting with method

Innovating is more than trying things at random. Structured approaches exist for experimenting rigorously. Design-based research, developed in the field of education, proposes designing, testing and refining schemes in successive cycles, drawing generalisable lessons from each iteration (Design-Based Research Collective, 2003). In a different register, methods drawn from entrepreneurship invite us to build a minimal version quickly, to confront it with reality, then to adjust according to what we learn, in a short loop between the idea and the test of the facts (Ries, 2011).

These approaches share a single philosophy, that of iteration and rapid learning. They stand against two common failings: the never-ending project that perfectly prepares a solution never confronted with the field, and the slapdash experiment from which no lesson is drawn. Adopting an experimental method, even a light one, turns innovation into a learning process in which every pilot teaches something, whether it succeeds or not.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

The right to make mistakes and learning

Since innovating means accepting uncertainty, the relationship to failure becomes decisive. An institution that punishes failure ensures that people stop taking risks, and therefore stop innovating. The history of educational technology is in fact full of unkept promises, of waves of enthusiasm followed by disappointment, which call for humility (Cuban, 2001; Reich, 2020). Far from discouraging us, this observation helps us to innovate more wisely, by learning from past failures rather than repeating them.

The right to make mistakes goes hand in hand with attention to results: the failure of a pilot, if it is analysed, counts as learning. A mature institution organises this right, distinguishing fruitful failure, from which lessons are drawn, from negligence, and giving value to what a failed pilot has made it possible to understand. It is on this condition that people dare to explore, knowing that an unsuccessful attempt will not be held against them.

Artificial intelligence as an object of innovation

Artificial intelligence is today the most visible object of innovation in higher education, and projects exploring its uses are multiplying. This ferment calls for discernment. Systematic reviews of research on AI in higher education have shown that this work often suffers from a lack of critical distance, weak pedagogical grounding and insufficient attention to ethical issues (Zawacki-Richter, Marín, Bond, & Gouverneur, 2019). In other words, an abundance of projects does not guarantee their quality.

Innovating with AI therefore means not being carried away by novelty for its own sake. It requires starting from real pedagogical needs, grounding projects in reflection on learning, and addressing ethical questions from the outset (Holmes, Bialik, & Fadel, 2019; UNESCO, 2023). An AI project run without this grounding risks being a solution in search of a problem. The experimental rigour discussed above applies here with particular force, since the hype encourages people to mistake trying out a tool for a pedagogical innovation.

Artificial intelligence as an accelerator of innovation

As well as an object to explore, AI is a means of innovating faster. It makes it possible to prototype resources quickly, explore ideas, analyse data from experiments and simulate scenarios. Used well, it shortens the loop between the idea and the test of the facts, which lies at the heart of experimental methods. An educator can sketch in a few minutes an activity that would have taken hours, and test it straight away.

This acceleration calls for the same precautions as any use of AI. A prototype produced quickly still has to be validated, and ease of production is no substitute for judgement. AI accelerates exploration, and reflection on the relevance of what is being explored remains indispensable. Used as an accelerator, it is a formidable lever for multiplying trials and learning faster, provided we keep control of the purposes.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

The ethics of experimentation

One point deserves particular vigilance: the ethics of experimentation. Innovating in teaching often means experimenting with students, who are not guinea pigs. Every experiment must therefore take care not to harm them, to inform them, to preserve equity between those who benefit from the innovation and those who do not, and to protect their data. These requirements connect with the model's three cross-cutting requirements, data protection, responsible AI and accessibility, which are not suspended on the grounds that one is exploring. An innovation that tramples on these principles becomes a fault.

Horizon scanning, between curiosity and discernment

Horizon scanning is the starting point of all innovation, but it demands discernment as much as curiosity. The field of digital education is swept by waves of enthusiasm, in which each novelty is presented as revolutionary before it subsides. Naive scanning, which chases every trend, exhausts people and builds nothing. Shrewd scanning separates signal from noise, takes an interest in the needs a novelty might serve rather than in the novelty itself, and keeps a critical distance from promises (Selwyn, 2016).

This clear-sightedness is especially valuable in the age of AI, when the pace of announcements outstrips the capacity to analyse them. Scanning means spotting what deserves closer examination, setting it against real needs and resisting the pressure of urgency. Good horizon scanning is therefore as much an exercise in sorting as in discovery. It protects the institution from dispersion by filtering, upstream, what is worth exploring.

Disruptive innovation and continuous improvement

Not every innovation is a disruption. Alongside spectacular transformations, an essential share of progress comes from modest, continuous improvements, those incremental adjustments which, as they accumulate, profoundly change practices. Equating innovation with disruption alone leads to neglecting this patient work, which is nevertheless safer and often more lasting. The two logics are complementary: the exploration of radically new paths and the refinement of what exists (March, 1991).

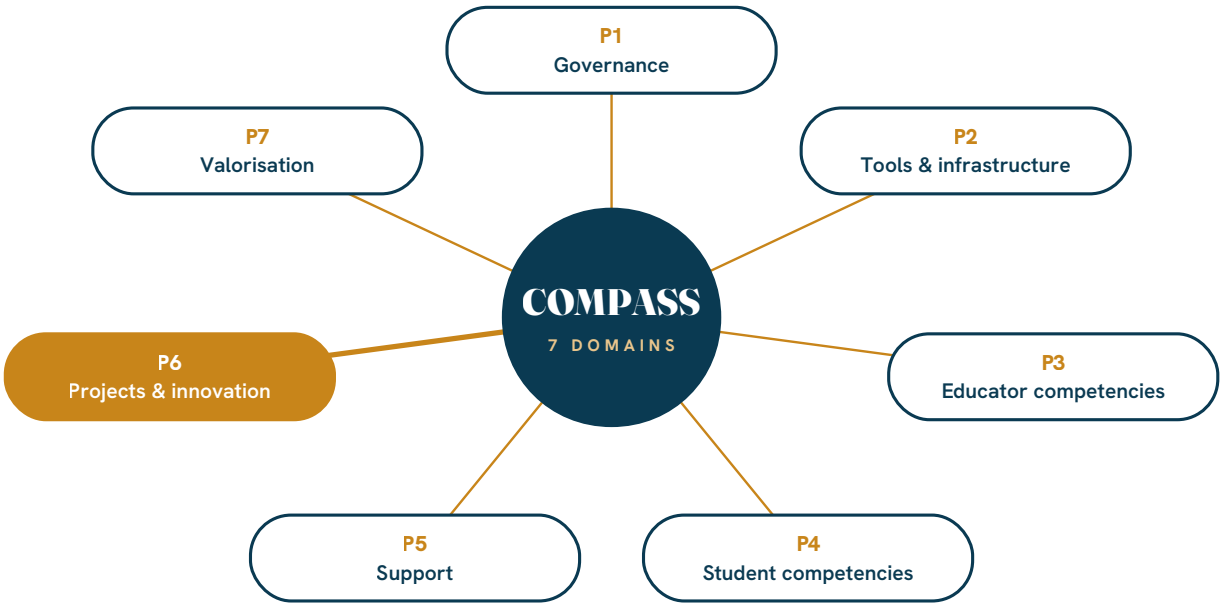
Recognising this duality has concrete effects. It gives value to small grassroots innovations, which are anything but showy yet genuinely improve teaching. It also avoids overvaluing disruption for its own sake, a common temptation that leads people to neglect the solid in favour of the spectacular. A mature institution supports both, with no hierarchy of prestige, knowing that continuous improvement and disruptive innovation feed each other. The first consolidates what has been gained, the second opens up horizons, and the balance between them is what makes an innovation capacity robust.

The link with the other domains

This domain irrigates all the others and is nourished by them. Successful innovations feed the tool portfolio, develop competencies, enrich support and sometimes governance itself.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

In return, innovation relies on a strategy that gives it a direction, on competencies that make it possible, and on support that spreads it. When well connected, this domain is the engine that prevents digital maturity from setting hard, by continually renewing practices.



Projects and innovation (P6) irrigate and renew the six other domains.

7.3 The maturity scale applied to projects and innovation



The five maturity levels, from the lightest (absent) to the darkest (mature).

The five levels make it possible to situate the institution without judging it.

At level 0, innovation is absent or purely individual. A few people experiment in their own corner, without the institution knowing about it, supporting it or drawing anything from it. At level 1, initiatives appear, but they are isolated and have no framework. Pilots exist, carried by enthusiasts, but they are neither linked to one another, nor evaluated, nor made permanent, and they often disappear with their initiators. At level 2, an approach is partially taking shape. There may be some horizon scanning, and a few projects are supported, but

© Jean-François Van de Poël · CC BY-NC-SA 4.0

scaling up remains rare, the evaluation of pilots is weak, and the connection between grassroots initiatives and strategic direction remains unclear.

At level 3, the domain is deployed. A framework supports initiatives and links them to a strategy, horizon scanning is organised, pilots are evaluated with clear decisions to continue or stop, and scaling up is treated as a process in its own right. The right to make mistakes is recognised, and the ethics of experimentation are taken into account. At level 4, finally, the domain is mature. The institution innovates in a continuous and balanced way, its successes scale up and outlast their initiators, its failures feed collective learning, and AI is explored rigorously as both object and accelerator. Above all, this innovation capacity, now embedded in culture and processes, no longer depends on a few people. A mature institution knows how to explore without scattering its efforts and how to consolidate without ossifying.

As with the other domains, it is common to be advanced on one aspect and behind on another, for example to support pilots well but never succeed in scaling them up. Spotting these imbalances guides the effort.

7.4 The expected deliverables

A well-run domain produces concrete objects, which make innovation visible and lasting.

DELIVERABLE	THE PITFALL TO AVOID
A horizon-scanning arrangement	Scanning that accumulates without ever sharing or deciding anything serves no purpose.
A framework for launching and evaluating a pilot	Without a clear decision on what comes next, the pilot drags on without end.
A project portfolio	Without an overview, experiments scatter and duplicate one another.
Criteria and a process for scaling up	Extending by decree, without bringing the conditions together, dooms the local success.
A space and a right to experiment	Without time or recognition, risk-taking remains wishful thinking.
An ethical framing of experimentation	Testing on students without informing them causes real harm.

A horizon-scanning arrangement. An organised way of following what is emerging, elsewhere and internally, and of sharing it. The pitfall would be scanning that accumulates without ever feeding a decision or an experiment, a pure collection with no effect.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

A framework for launching and evaluating a pilot. Simple reference points for proposing an experiment, running it and taking stock of it, with a clear decision on what comes next. The pitfall is the overly heavy framework, which discourages the very initiatives it claims to support.

A project portfolio. An overview of the experiments under way, linked to the strategy, which prevents dispersion and duplication. The pitfall would be a bureaucratic portfolio that serves reporting more than innovation.

Criteria and a process for scaling up. A way of deciding which successes to extend, and how, taking depth, sustainability and ownership into account. The pitfall is scaling up by decree, which extends a pilot without bringing together the conditions for its success elsewhere.

A space and a right to experiment. Concrete conditions, in time, resources and recognition, that authorise measured risk-taking. The pitfall would be a right to innovate that is proclaimed but never resourced, and that remains wishful thinking.

An ethical framing of experimentation. Reference points for experimenting without causing harm, by informing students, preserving equity and protecting data. The pitfall is the experiment that forgets these requirements in the name of urgency or novelty.

As in the previous chapters, the formal existence of these deliverables is not enough. Horizon scanning that nobody reads, or a portfolio that nobody uses to make decisions, helps no one. Their worth lies in the explorations they make possible and the practices they bring into being.

7.5 Building an innovation capacity that holds

Having ideas is not enough. You also need ways of working that turn the desire to innovate into lasting practices.

Creating a light framework that authorises experimentation

The first decision is to give initiatives a framework that authorises them without weighing them down. A good innovation framework comes down to very little: a simple way of proposing an experiment, a little time or resource, and the assurance that an attempt will not be held against its author. The trap to avoid is heavy procedure, which turns the desire to innovate into an obstacle course and discourages precisely the people it was meant to support. The framework must feel like a permission and a support. It is by staying light that it encourages initiative while giving the institution visibility over what is being tried.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Organising horizon scanning and sharing

Innovating requires knowing what is being done elsewhere and what is emerging. Organising horizon scanning, even on a modest scale, avoids reinventing what already exists and feeds inspiration. But scanning is only worth something if it circulates. Linking it to moments of sharing, where people present what they have spotted or tried, turns it into a collective resource. This sharing has a second virtue: it makes grassroots initiatives known, brings them out of isolation and allows others to draw inspiration from them. Lively, shared horizon scanning is often the simplest starting point for energising this domain.

Steering a portfolio without smothering initiatives

As projects multiply, an overview becomes useful. A project portfolio, linked to the strategy, helps to avoid dispersion, spot duplication and concentrate resources where they count. The danger is turning it into a bureaucratic instrument that smothers initiatives under reporting. The right balance is to keep a light overview, geared towards decision-making and support rather than control. Steering a portfolio means giving innovation a direction and the means to succeed, while preserving the grassroots energy that is its source.

Evaluating pilots honestly

A pilot makes sense only if a decision is then taken to do something with it. Evaluating an experiment honestly, against criteria agreed in advance, makes it possible to decide: continue, adjust, extend or stop. This honesty is difficult, because attachment to a project pushes people to prolong it even when it is not delivering on its promises. Setting clear criteria and decision points protects against this bias. Deciding to stop a pilot that is not working is a success of evaluation, because it frees up resources for other explorations. An institution that never stops anything accumulates pilots without ever consolidating.

Thinking about scaling up from the start

Scaling up is prepared early. From the design of a pilot onwards, asking under what conditions it could live elsewhere and without its initiators changes the way it is run. It leads to documenting practices, making them adaptable, involving other people gradually, and not depending on conditions that cannot be reproduced. Keeping in mind the dimensions of scaling up, depth, sustainability, spread and ownership, avoids the trap of the brilliant innovation that cannot be passed on (Coburn, 2003). A success designed to last from the start has a far better chance of surviving than one that people try to extend after the fact.

Framing experimentation ethically

Finally, any experiment that involves students calls for an ethical framing. This requires systematic vigilance, without necessarily a heavy apparatus: informing the people concerned, preserving equity, protecting data, doing no harm. Building these questions into the design of a pilot, rather than dealing with them after the fact, is part of responsible innovation. This requirement applies with particular force to experiments involving AI, where the issues of

© Jean-François Van de Poël · CC BY-NC-SA 4.0

bias, transparency and data are acute. Framing experimentation ethically means making sure that it truly serves those for whose benefit it is undertaken.

Recognising the time and effort of innovation

Innovation takes time, and that time is rarely recognised. An educator who tries out a new approach invests considerable effort, often in their own time, without that investment being visible or valued. This lack of recognition is one of the main reasons innovation runs out of steam, because nobody can carry projects indefinitely without support. Setting aside recognised time for experimenting, even a modest amount, changes the picture radically.

Recognition is not limited to time. Giving value to initiatives, making them visible, crediting them, and acknowledging the lessons learned even from a failure all sustain the energy that makes innovation possible. This point links this domain to the next, valorisation and recognition, because an innovation that is never recognised eventually dies out. Recognising the effort of innovating is an investment in the sustainability of this capacity, far more effective than multiplying calls to innovate without providing the means.

Opening up and sharing innovations

An innovation gains from being open and shared rather than jealously guarded. Sharing a success, under a licence that allows it to be reused, enables others to take it up, adapt it and improve it, which multiplies its reach far beyond its point of origin. This openness also avoids endlessly reinventing what already exists elsewhere, a frequent waste when each institution works in a silo.

Sharing extends to partnerships. Experimenting with other institutions, pooling horizon scanning or resources, and taking part in innovation networks enriches everyone and achieves a critical mass that is out of reach alone. In the age of AI, when the issues go far beyond any single institution, this logic of openness takes on particular significance. Opening up and sharing strengthens the institution, by placing it within a community of exchange where innovations circulate and improve. It is also a way of contributing to the common good of higher education, beyond the institution's own interest.

Documenting in order to pass on

One thread connects several of the preceding practices: documentation. An undocumented innovation remains locked inside its author's head, invisible and impossible to pass on. Documenting it, even briefly, by describing what was tried, what worked and what failed, makes it shareable, reusable and lasting. It is often the simplest and most neglected act in the whole domain.

Documenting does not require writing long reports. A few clear records, kept regularly, are enough to turn a one-off experience into a collective resource. This memory is the condition both for scaling up and for the survival of innovations beyond individuals. Without it, the

© Jean-François Van de Poël · CC BY-NC-SA 4.0

institution keeps relearning the same lessons. With it, every experiment, even a failed one, leaves a trace from which others will benefit.

7.6 The anti-patterns

Some configurations recur often enough to deserve a name. Spotting them makes it possible to act before they take hold.

ANTI-PATTERN	THE REMEDY
Pilotitis	Decide to stop, make permanent or extend.
Innovation theatre	Aim for the real transformation of practices.
Dependence on the enthusiast	Document, involve a team, anchor in the organisation.
The pilot that is never stopped	Set criteria and decide when the deadline comes.
Scaling up by decree	Bring together the conditions that had made the success possible.
The race for the shiny tool	Start from a need.
The mandate from above without the ground	Involve those who will have to carry the innovation.
Experimentation without ethics	Inform, preserve equity, protect data.

Pilotitis. The institution multiplies pilots without ever making any of them permanent. Bustle stands in for innovation, and nothing takes lasting hold. The remedy is to think about scaling up from the start and to decide clearly on the fate of each pilot.

Innovation theatre. Projects are put on display in order to look innovative, with no real intention of transforming practices. The shop window hides the standstill. The way out is to judge innovation by its real effects.

Dependence on the enthusiast. An initiative rests entirely on one passionate person, and collapses when they leave. Documenting, involving other people and aiming for collective ownership protect against this fragility.

The pilot that is never stopped. For want of criteria and a decision, experiments drag on indefinitely, even without results, tying up resources. Setting criteria and decision points, including for stopping, frees up energy.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Scaling up by decree. A local success is extended by imposing it everywhere, without bringing together the conditions that had made it possible. The innovation withers as it spreads. Preparing the ground and adapting to the context restores its chances.

The race for the shiny tool. The latest fashionable tool is tried out without starting from a need, confusing novelty with innovation. Anchoring each project in a real pedagogical need disciplines this temptation, which is particularly strong with AI.

The mandate from above without the ground. An innovation is decided at the top and rolled out without the people who will have to carry it, who never make it their own. Connecting strategic direction and grassroots initiatives avoids this rejection.

Experimentation without ethics. Tests are run on students without informing them, without attention to equity and without protecting their data. Harm outweighs learning. Building ethics in from the design stage makes experimentation legitimate.

7.7 A possible trajectory

Let us imagine a higher education institution where innovation is left to the chance of individual goodwill. At the outset, it stands at level 1. A few educators are experimenting with generative AI in their courses, with talent, but each in their own corner, without the institution knowing about it or benefiting from it. When one of them leaves, their innovation disappears with them. A snapshot reveals real energy that is entirely dependent on individuals, with neither framework nor memory.

Rather than creating a heavy innovation directorate, the institution puts a light framework in place. It opens up a simple way of proposing a pilot, with a little recognised time and the assurance of a right to make mistakes. It organises shared horizon scanning and regular moments when initiatives are presented, which brings them out of isolation. It adopts simple criteria for evaluating pilots and deciding what happens to them next, and asks each project to think from the start about its possible extension. One year later, the domain reaches level 3: initiatives are visible and connected, several pilots have been evaluated, two have been extended and one has been stopped without drama. The institution has given grassroots energy a framework that makes it bear fruit.

7.8 What accomplished practice looks like

In an institution that is mature in this domain, innovation is neither the monopoly of a directorate nor the private business of a few enthusiasts. A light framework authorises and supports grassroots initiatives, while linking them to a strategic direction that prevents dispersion. Organised, shared horizon scanning feeds inspiration, and initiatives meet instead of

© Jean-François Van de Poël · CC BY-NC-SA 4.0

ignoring one another. Pilots are run with method, evaluated honestly, and their fate is decided without indulgence: continuation, extension or stopping.

Scaling up is considered from the start, so that successes become lasting practices rather than short-lived feats, and outlast the departure of their initiators. The right to make mistakes is real, and failures that have been analysed feed collective learning. AI is explored rigorously, as an object of innovation anchored in real needs and as an accelerator in the service of purposes that remain under control, without ever yielding to fascination. The ethics of experimentation are built in, and students are never guinea pigs. Above all, this capacity to innovate is embedded in culture and processes, and no longer depends on a few individuals. It is by this continuity that a truly innovative institution can be recognised.

7.9 Where to begin, depending on your starting point

The course of action depends on the level reached. Three scenarios cover most situations.

If you are at level 0 or 1, the mistake would be to build a heavy innovation structure. Begin by making visible the initiatives that already exist, by organising shared horizon scanning and moments when people present what they are trying out. Offer a light framework for proposing a pilot, with an explicit right to make mistakes. These first steps bring innovation out of isolation and give the institution a memory of what is being attempted, where everything used to depend on individuals.

If you are at level 2, your difficulty lies in the lack of evaluation and of follow-through into permanent practice. The effort then bears on three fronts. Give yourselves simple criteria for evaluating pilots and deciding what happens to them next, including stopping them. Think about scaling up from the design of projects onwards, aiming for depth and ownership as much as numbers. And link the project portfolio to the strategy, to concentrate resources without smothering the grassroots. Building in an ethical framing of experimentation becomes indispensable at this stage.

If you are at level 3, the challenge becomes maintaining the balance. Take care not to let exploration cannibalise day-to-day operations, nor routine smother innovation. Cultivate the right to make mistakes and the memory of failures, so as to keep learning. Refine the exploration of AI, as object and as accelerator, keeping the rigour that distinguishes it from hype. Level 4 is maintained through a constant balancing of exploring and consolidating.

7.10 The case of small institutions

All this may seem tailored to large institutions with innovation departments. Yet it applies to small institutions too. A small higher education institution often innovates with agility, because its channels are short and its people close to one another. Its asset is this proximity,

© Jean-François Van de Poël · CC BY-NC-SA 4.0

which makes it possible to launch and adjust quickly. Its fragility is dependence on individuals, even more acute than elsewhere, because an innovation there sometimes rests on a single person.

The answer comes down to very little: a very light framework that authorises experimentation, a shared memory of what is being attempted, and a constant concern to document so as not to lose everything at the first departure. Pooling is valuable here: several small institutions can experiment together, share their horizon scanning and their lessons, and reach a critical mass that none would have alone. Innovating on a small scale is no handicap, provided agility is not confused with the absence of memory.

7.11 Indicators and questions to ask yourself

This final section brings together what is needed to assess the domain and feed the discussion. It is intended to be exhaustive. Not every element will carry the same weight in every institution, but none should be set aside without having been thought about. Use the indicators to measure and monitor over time, and the questions to position yourselves honestly on the scale from 0 to 4.

The indicators to monitor

HORIZON SCANNING AND INITIATIVES

- the existence of organised horizon scanning and the extent to which it is actually shared;
- the number of grassroots initiatives that are known and connected, rather than isolated;
- the share of initiatives that benefit from a support framework.

PILOTS AND EVALUATION

- the share of pilots evaluated against criteria agreed in advance;
- the share of pilots that have been the subject of a clear decision on what comes next;
- the ability to stop a pilot that is not delivering on its promises.

SCALING UP AND SUSTAINABILITY

- the share of successes that have actually been scaled up;
- the survival of innovations after the departure of their initiators;
- the attention given to depth and ownership, beyond numbers.

FRAMEWORK AND BALANCE

- the lightness of the innovation framework, experienced as a support rather than a control;
- the connection between grassroots initiatives and strategic direction;
- the balance between exploration and day-to-day operations.

ARTIFICIAL INTELLIGENCE

- the anchoring of AI projects in real pedagogical needs;

© Jean-François Van de Poël · CC BY-NC-SA 4.0

- the use of AI as an accelerator of experimentation, with discernment;
- the critical consideration of ethical issues in AI projects.

RIGHT TO MAKE MISTAKES AND ETHICS

- the effective recognition of a right to make mistakes;
- the analysis and sharing of failures as a source of learning;
- the existence of an ethical framing for experiments involving students.

The five key indicators

Among all the indicators of this domain, five deserve to be tracked first. Annex C gives the full catalogue, with the definition, calculation, data source, frequency and owner of each indicator. The targets are benchmarks to adapt to your context.

KEY INDICATOR	TARGET	WHERE TO FIND THE DATA	FREQUENCY
Pilot contracts signed Share of pilots covered by a sandbox contract specifying the duration, metrics, risks and exit criteria.	**100%**	Project register, sandbox contracts	Biannual
Evaluation plans complete AI Share of projects with an evaluation plan that specifies the indicators, methods, samples and ethical framework.	**100% of projects**	Project files	Quarterly
Go/No-go within 30d post-report AI Share of projects for which the decision to continue, scale or stop is taken within 30 days of the impact report.	**≥ 90%**	Committee minutes, project register	Quarterly
Reusable deliverables produced Average number of reusable deliverables per closed project (guides, scenarios, open educational resources, sheets).	**≥ 2 per project (guides, OERs, sheets)**	Institutional resource repository	Quarterly
DPIAs for AI cases AI DATA Share of at-risk AI projects for which a data protection impact assessment is carried out before the pilot.	**100% of at-risk projects**	DPIA register, projects committee	Biannual

The questions to ask yourself

These questions are best answered as a group, requiring evidence for every affirmative answer, and noting disagreements rather than smoothing them over.

HORIZON SCANNING AND INITIATIVES

1. Do you have organised horizon scanning of what is being done elsewhere and what is emerging?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

2. Is this scanning shared and does it feed decisions, or does it remain a dead letter?
3. Are grassroots initiatives known, connected and supported, rather than isolated?

THE FRAMEWORK AND THE BALANCE

4. Is there a framework that authorises and supports experimentation without weighing it down?
5. Is this framework experienced as a permission and a support, or as a control?
6. Are grassroots initiatives connected to a strategic direction?
7. Do exploration and day-to-day operations coexist without one smothering the other?

PILOTS AND THEIR EVALUATION

8. Are pilots run with a minimum of method and iteration?
9. Are they evaluated against criteria agreed in advance?
10. Are you able to stop a pilot that is not delivering on its promises, without making a drama of it?

SCALING UP

11. Is scaling up considered from the design of pilots onwards?
12. Do you take depth, sustainability and ownership into account, beyond numbers?
13. Would your innovations outlast the departure of those who carry them?

ARTIFICIAL INTELLIGENCE

14. Do your AI projects start from real pedagogical needs, rather than from novelty?
15. Do you use AI as an accelerator of experimentation, with discernment?
16. Are the ethical issues of AI projects examined with critical distance?

THE RIGHT TO MAKE MISTAKES AND ETHICS

17. Is the failure of a pilot treated as learning?
18. Are the lessons of failures analysed and shared?
19. Do experiments involving students respect information, equity and data protection?
20. Would the capacity to innovate withstand the departure of the few people who carry it today?

A frank answer to these questions is worth more than a good score. It shows where to direct the effort, and that is exactly what a mature reading of innovation is supposed to make possible. Keep in mind the idea that runs through this chapter. To innovate is to establish a lasting capacity to explore, to learn and to consolidate, carried by a framework that supports initiatives without restraining them and links them to a direction. AI has a dual place in it, as an object to be explored rigorously and as an accelerator to be put at the service of purposes that remain under control. The next chapter, the last of the seven domains, turns to what gives all this energy its standing and its reach: valorisation and recognition.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P7 · DOMAIN 7

CHAPTER

8

Valorisation and Recognition

CHAPTER MAP · FOR A QUICK READ

Why this domain matters. This last domain, often the most neglected, determines whether all the others last: nobody can carry indefinitely an effort that is neither recognised nor valued. Without recognition, even the best scheme runs out of steam.

THE ROAD TO MATURITY, FROM 0 TO 4

0 ABSENT	1 PILOT	2 PARTIAL	3 DEPLOYED	4 MATURE

KEY DELIVERABLES

- Recognition in careers
- Peer recognition
- Badges and micro-credentials
- Valorisation and dissemination
- Individual / institutional link
- Fairness of recognition

ANTI-PATTERNS TO AVOID

- Token recognition
- Worthless badges
- Always the same people
- Institutional appropriation

CROSS-CUTTING REQUIREMENTS, NEVER SUSPENDED

Accessibility | Data protection | Responsible AI

THE KEY IDEA

Mature recognition goes beyond symbolic prizes: it reaches careers, values the work as much as the people, and does not forget quiet commitment.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

8.1 Why this domain matters

This last domain is often the most neglected, and that is a paradox, because it determines whether all the others last. You can have a crystal-clear strategy, reliable tools, carefully designed training, high-quality support and a real capacity for innovation, and still see all of it run out of steam for want of recognition. People who commit themselves to digital teaching and innovation often do so out of conviction, but nobody can carry indefinitely an effort that is neither recognised nor valued. Recognition is the reward system that keeps the energy of the whole alive.

This domain suffers from a well-documented structural obstacle: the prestige gap between research and teaching. In much of the academic world, the worth of a career is measured first by publications and funding, while commitment to teaching, and all the more so commitment to digital practice, counts for little. This gap, which is in no way inevitable, weighs heavily, because it sends a clear message: what really matters lies elsewhere. Tackling this domain therefore means confronting an implicit hierarchy of values, which goes well beyond adding a few prizes or badges.

The domain has two complementary faces, and this chapter deals with both. There is the recognition of people, through careers, time and status, and also through awards and visibility. And there is the valorisation of achievements, which disseminates what has been produced, brings it to light and helps it spread. The two faces answer each other, because recognising people and valorising their work belong to one and the same movement, the one that gives digital engagement the place it deserves. Artificial intelligence plays a double role here, as a new form of engagement that we must learn to recognise, and as a tool in the service of valorisation, through portfolios and digital badges.

8.2 Understanding this domain

What this domain covers

Valorisation and recognition cover everything that gives value, literally and figuratively, to digital engagement and to what it produces. On the side of people, this ranges from career and promotion criteria to recognition of the time invested, by way of awards, prizes and the simple visibility given to initiatives. On the side of achievements, it covers the dissemination of the resources produced, the showcasing of successful projects, the spread of good practice and open sharing with the community.

This domain is distinct from every other, even though it runs through them all. Its purpose is to recognise what has been accomplished and to extend its reach. This cross-cutting function explains its position at the end of the journey, because it crowns and sustains the efforts

© Jean-François Van de Poël · CC BY-NC-SA 4.0

made in the six preceding domains. A mature domain gives what is produced the recognition and the reach that make it last.

The prestige gap between research and teaching

The central obstacle in this domain needs to be named precisely. Voices have long been raised in favour of a broader conception of what makes an academic valuable, beyond research alone. A seminal work proposed recognising several forms of scholarly work, teaching among them, arguing that it should be valued on a par with scientific discovery (Boyer, 1990). Decades later, this rebalancing remains largely unfinished, and analyses show that time devoted to teaching is still weakly, or even negatively, correlated with salary progression (Fairweather, 2005).

This gap has direct consequences for digital practice. Since commitment to teaching is itself little recognised, investment in digital teaching is recognised even less, relegated to the rank of a side activity. Research on the recognition of teaching shows that progress, real as it is, runs up against stubborn resistance, so strongly do evaluation systems remain shaped by the primacy of research (Chalmers, 2011). Understanding this domain means first taking the measure of this implicit hierarchy, because it is this hierarchy that has to shift for recognition to become real.

Career recognition

The form of recognition with the deepest structural effect is the one that reaches careers. As long as commitment to digital teaching carries no weight in promotion criteria, in the allocation of time or in status, it will remain an optional extra reserved for volunteers. Making this commitment count means acting on the mechanisms that govern career paths, by explicitly building in criteria linked to teaching and innovation, and by recognising the time these activities really take.

Career recognition is the hardest to obtain, because it touches deep-seated balances and established cultures. It is nevertheless the most powerful, because it sends an unambiguous signal about what the institution values. A promotion criterion that recognises teaching excellence and digital innovation transforms the landscape far more than a multitude of one-off prizes. Conversely, as long as careers ignore these dimensions, no symbolic scheme will make up for the implicit message that they do not really count.

Symbolic and community recognition

Alongside careers, a lighter form of recognition plays a far from negligible role. Awards, prizes, visibility given to initiatives and public thanks feed the feeling that commitment is seen and appreciated. This symbolic recognition is precious, provided it is not overestimated. It does not replace career recognition, and making it the only response would amount to keeping up appearances while changing nothing in the underlying balances.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Community recognition, the recognition of peers, deserves particular attention. Being recognised by colleagues, seeing your work taken up and cited, and holding a place in a community of practice are a form of recognition that is often more motivating than official awards. Communities of practice, mentioned throughout this book, are natural settings for this peer recognition (Wenger, McDermott, & Snyder, 2002). Cultivating this horizontal recognition, alongside the vertical recognition of institutions, enriches the domain.

Micro-credentials and digital badges

Among recent tools for recognition, micro-credentials and digital badges are attracting growing interest. They make it possible to recognise specific competencies or commitments, in a finer-grained and more flexible way than traditional degrees, and to make that recognition visible and verifiable (Oliver, 2019). Open standards exist to guarantee their interoperability and portability, which avoids lock-in to a proprietary system (1EdTech, n.d.).

These tools nevertheless call for discernment, because their value is not automatic. A badge is worth only what it actually recognises and the credibility of whoever awards it. Multiplied without rigour, badges lose their meaning and become mere images with no weight. Critical analyses point out that the promise of digital badges has not always been fulfilled, and that they have an effect only when carefully designed and backed by real recognition (Roy & Clark, 2019). Well thought out, they are a useful instrument, provided the proliferation of badges is not mistaken for genuine recognition.

Recognition and motivation

A subtle point deserves to be set out: the relationship between recognition and motivation. One might think that rewarding is enough to motivate, but the reality is more nuanced. Research on motivation shows that people commit themselves over the long term when three needs are met: autonomy, a sense of competence and relatedness to others (Ryan & Deci, 2000). Recognition that supports these needs strengthens motivation, whereas purely external recognition, experienced as control or as a carrot, can on the contrary erode it.

This nuance has practical consequences. It invites us to design recognition as a way of showing that commitment is seen, understood and appreciated, rather than as a system of conditional rewards. Recognising the meaning of a piece of work, the competence it reveals and the contribution it makes to the community feeds a far deeper motivation than a mere bonus or a ranking. The risk of poorly conceived recognition is that it turns people motivated by meaning into people who work only for the reward. The domain therefore gains from cultivating recognition that supports inner commitment rather than replacing it.

Valorising and disseminating achievements

The second face of the domain concerns the achievements themselves. Valorising means giving visibility to what has been produced, through showcases, presentations and publications, but it also means disseminating it and helping it spread, so that successes bring bene-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

fits beyond their point of origin. A successful innovation that stays confidential serves only those who designed it, whereas the same innovation, once shared, can inspire and benefit a whole community.

This valorisation takes on its full meaning when it rests on open sharing. Releasing a resource under a licence that allows it to be reused multiplies its reach and places the institution in a logic of contribution to the common good. Valorisation is therefore also a way of making what has been produced bear fruit collectively. It connects this domain to that of innovation, whose dissemination it ensures, and to that of competencies, which it helps to spread.

Linking the individual and the institutional

Recognition of people and valorisation of achievements go together. When an institution valorises what its teams produce, it recognises in the same gesture the people who created it. And when it recognises its talented people, it strengthens its own reputation, which rests on them. This link between the individual and the institutional lies at the heart of a mature domain. An institution that brings the successes of its educators to light valorises the people as much as its own standing, in a virtuous circle from which everyone benefits.

Neglecting this link leads to two symmetrical pitfalls. An institution that valorises its achievements without recognising the people ends up instrumentalising their work, which is discouraging. An institution that recognises the people without valorising what they produce deprives itself of the collective reach those achievements could bring it. The domain bears its full fruit when the two are held together.

Artificial intelligence as a commitment to be recognised

Artificial intelligence creates a new field of commitment that we must learn to recognise. Educators who explore these tools, rethink their assessments, train their colleagues or design resources put in a considerable amount of work, often invisible and unrecognised. Without recognition, this pioneering commitment risks burning out, even though it is precious to the institution. Including commitment to AI among the things that are recognised, in careers as in awards, sends an important signal at a pivotal moment.

This recognition must remain clear-sighted. The aim is to recognise thoughtful commitment and the in-depth work that integrating AI meaningfully requires, without rewarding the use of AI for its own sake, which would amount to valorising fashion. Recognising those who break this ground with discernment, rather than those who follow the current, steers energy towards responsible use rather than towards restless activity.

Artificial intelligence as a tool for valorisation

AI and digital technology also offer ways of valorising and recognising. Digital portfolios make it possible to document and show to advantage a record of commitment, digital badges make specific forms of recognition visible, and sharing spaces give visibility to

© Jean-François Van de Poël · CC BY-NC-SA 4.0

achievements. Used well, these tools make recognition more concrete, finer-grained and more portable, by freeing it from sole reliance on heavy institutional mechanisms.

These tools call for the same precautions as everywhere else. A portfolio has value only if it documents real commitment, and a badge only if it recognises something substantial. The tool makes recognition visible, provided that recognition exists. Used as a support, without taking its place, digital valorisation tools enrich the domain without distorting its meaning.

Fairness of recognition

A final point calls for particular vigilance: fairness. Recognition is not neutral, and it often tends to go to the same people every time, the most visible, the most at ease, the best placed. Those who commit themselves quietly, in less prestigious roles or less exposed settings, risk being forgotten. Making sure that recognition also reaches this silent commitment is part of a mature domain, failing which existing inequalities are reinforced.

Time, the first form of recognition

Among all the forms of recognition, one stands out for being concrete: time. Recognising a person's commitment by granting them time to exercise it is probably the most tangible form of recognition, and the rarest. A prize is flattering and a mention is pleasing, but time set aside really changes working conditions. Conversely, constantly asking for more digital engagement without ever recognising the time it requires amounts to loading that effort onto people's already squeezed margins.

Recognition through time is difficult, because time is a limited resource that every mission competes for. It is no less decisive for that, because it turns into action what the speeches proclaim. Providing, within workloads, a recognised share for digital teaching and innovation sends a stronger signal than many awards. Time is thus the first form of recognition, the one without which the others risk ringing hollow.

Recognising without reducing everything to measures

A domain that speaks of recognition and indicators runs a risk: reducing everything to measures. Counting the badges awarded, the prizes given and the resources disseminated is informative, but recognition cannot be entirely quantified. Sincere recognition often lies in gestures that escape dashboards: the right word, a moment of attention, trust given.

Wanting to measure everything opens the way to two failings. The first is to recognise only what can be counted, neglecting less visible commitment. The second is to turn recognition into a machinery of indicators, which loses the human warmth that makes it valuable. The indicators proposed in this chapter are simply points of reference. Mature recognition uses them to direct effort, without ever forgetting that recognising is first of all a human act, which cannot be reduced to a figure.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

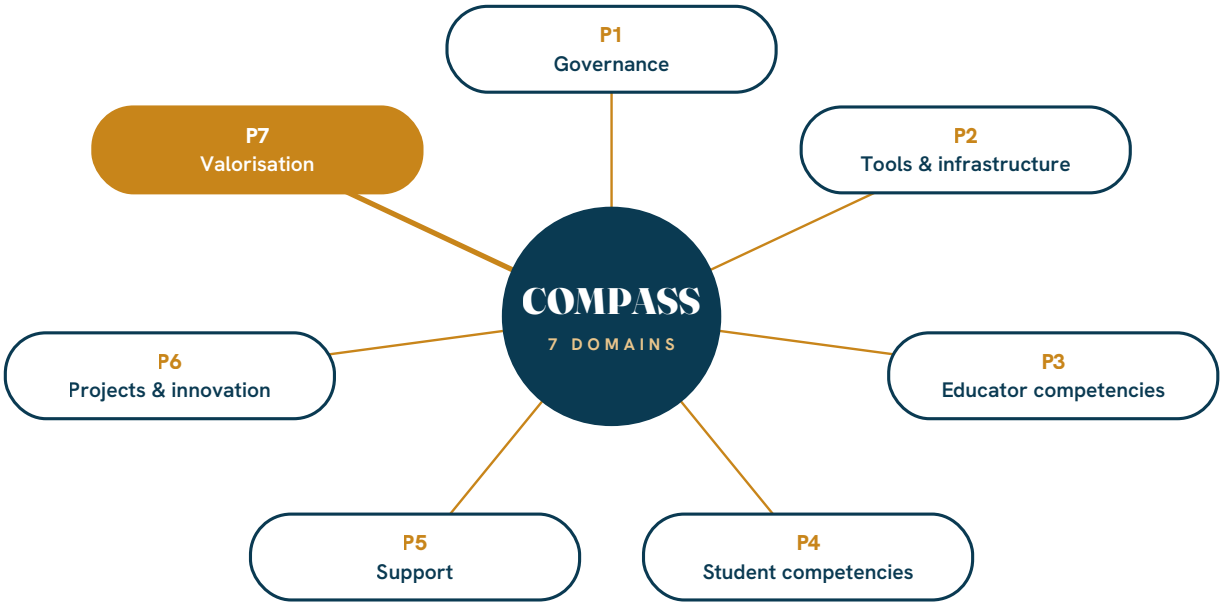
Recognising beyond educators

A blind spot lies in wait for this domain: recognising only educators. Yet digital engagement draws on many other people: educational advisers, technicians, engineers, and sometimes the students who contribute to projects. These contributions, often made in the background, are nonetheless essential to the success of digital schemes.

Extending recognition to all these people, beyond the teaching staff, does justice to the reality of collective work. It also avoids resentment among those whose contribution remains invisible even though it is decisive. Mature recognition embraces the whole chain of people who keep digital education alive, with no hierarchy of prestige between them.

The link with the other domains

This domain crowns and supports all the others. It recognises the competencies developed, valorises the innovations carried out, honours commitment to support and professional development, and gives the strategy a concrete expression in people's career paths. In return, it depends on governance that decides to make it a priority, because recognising involves choices that are sometimes difficult. Well connected to the rest, this domain is what stops the efforts of the other six from running dry, by giving them the recognition and the reach that make them last.



Valorisation (P7) is what makes the efforts of the other six domains last.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

8.3 The maturity scale applied to valorisation and recognition



The five maturity levels, from the lightest (absent) to the darkest (mature).

The five levels make it possible to place the institution without judging it.

At level 0, digital engagement is neither recognised nor valued. It rests entirely on people's conviction, with nothing in return, and achievements remain invisible. At level 1, a few gestures appear, but they are isolated and symbolic. There may be a one-off prize or an occasional moment in the spotlight, but recognition does not reach careers and achievements are not really disseminated. At level 2, an approach is partly taking shape. Symbolic recognition schemes exist, perhaps a few badges and the beginnings of valorisation, but digital engagement still carries no weight in careers, and the link between recognition of people and valorisation of achievements remains weak.

At level 3, the domain is deployed. Commitment to teaching and to digital practice counts in career criteria, symbolic and community recognition accompanies it, achievements are valorised and disseminated, and digital recognition tools are used with discernment. Fairness of recognition is taken into account.

Finally, at level 4, the domain is mature. Recognition of digital engagement is written into careers and into the culture, it supports motivation without distorting it, achievements have a reach beyond the institution, and the link between the individual and the institutional works as a virtuous circle. Above all, this recognition is anchored in the institution's mechanisms, independently of the goodwill of a few managers. A mature institution recognises and valorises fairly and durably, so that the commitment of its teams does not run dry.

As with the other domains, it is common to be advanced on one aspect and behind on another, for example to valorise achievements well but have no career recognition at all. Spotting these imbalances directs the effort.

8.4 The expected deliverables

A well-run domain produces concrete objects, which make recognition real and valorisation effective.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

DELIVERABLE	THE PITFALL TO AVOID
Career criteria that include digital engagement	Without them, commitment to teaching remains a blind spot in promotions.
A scheme for symbolic and community recognition	Reduced to symbols, recognition never reaches careers.
A well-considered system of badges or micro-credentials	Handed out in abundance, badges end up meaning nothing.
A scheme for valorisation and dissemination	Staged but not disseminated, valorisation remains mere communication.
A framework linking the individual and the institutional	Without it, the institution takes the credit without acknowledging the people.
A framework for fairness of recognition	Without vigilance, recognition always goes to the same people, the most visible.

Career criteria that include digital engagement. Explicit consideration of digital teaching and innovation in promotion and evaluation procedures. The pitfall would be criteria that are proclaimed but never applied, which keep up appearances while changing nothing in the actual decisions.

A scheme for symbolic and community recognition. Awards, visibility and spaces for peer recognition. The pitfall is token recognition, which multiplies prizes without ever touching the underlying balances.

A well-considered system of badges or micro-credentials. Fine-grained, interoperable and credible forms of recognition, backed by real commitment. The pitfall would be a proliferation of badges awarded without rigour, which empties them of meaning.

A scheme for valorisation and dissemination. Ways of bringing achievements to light and helping them spread, ideally under an open licence. The pitfall is valorisation that is purely a matter of communication, which stages things without disseminating anything useful.

A framework linking the individual and the institutional. A way of recognising people by valorising their work, and vice versa. The pitfall would be to instrumentalise people's work solely for the benefit of the institution's image.

A framework for fairness of recognition. Attention to making sure that recognition also reaches quiet commitment and less exposed people. The pitfall is recognition that always goes to the same people, reinforcing existing inequalities.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

As in the previous chapters, the formal existence of these deliverables is not enough. Criteria that nobody applies or badges that nobody respects recognise nothing. Their worth lies in the real recognition they provide and in the reach they give to achievements.

8.5 Putting in place recognition that holds

Good intentions are not enough. What is also needed are ways of working that turn the will to recognise into lasting arrangements.

Making commitment count in careers

The decision with the deepest structural effect is to bring commitment to teaching and to digital practice into career criteria. It is the hardest, because it touches established cultures and balances of power, but it is also the most powerful. In practice, it means building criteria linked to teaching and innovation into promotion procedures, recognising the time these activities take, and equipping yourself with the means to evaluate them fairly. This is a long undertaking that proceeds in stages, but every step forward sends a strong signal. Without it, all the other schemes will remain stopgaps, unable to make up for the implicit message of a career that ignores these dimensions.

Recognising symbolically without distorting motivation

Symbolic recognition is easier to put in place, but it requires care. Awards, visibility and sincere thanks sustain the feeling of being seen and appreciated. The key is to design these gestures so that they support inner motivation rather than replace it (Ryan & Deci, 2000). Recognition that celebrates the meaning of a piece of work and the competence it reveals feeds commitment, where purely competitive or conditional recognition risks eroding it. Cultivating peer recognition as well, within communities of practice, adds a horizontal dimension that is often more motivating than official awards alone.

Introducing badges with discernment

If you choose to introduce badges or micro-credentials, it is better to do so rigorously. A credible badge recognises a specific commitment or competence, it is awarded by a legitimate body, and it relies on open standards that guarantee its portability (Oliver, 2019; 1EdTech, n.d.). The main pitfall to avoid is proliferation, which devalues badges as it multiplies them. A few badges that count are better than many that mean nothing. Regularly evaluating how these forms of recognition are used and how credible they are makes it possible to adjust them, and to give up those that do not keep their promises (Roy & Clark, 2019).

Valorising and disseminating achievements

Valorising achievements requires spaces and occasions. Showcases, presentations and publications give visibility, but valorisation takes on its full meaning only when it leads to dis-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

semination and spread. Encouraging open sharing of the resources produced, under licences that allow them to be reused, multiplies their reach and places the institution in a logic of contribution. Documenting achievements and making them accessible, rather than letting them be lost, turns isolated successes into collective resources. This dissemination is also a form of recognition, because seeing your work taken up and used is often more rewarding than an award.

Linking individual recognition and institutional valorisation

The care taken over the link between the individual and the institutional makes the difference. By bringing its teams' achievements to light, the institution recognises the people while strengthening its own standing. Taking care always to credit people when their work is valorised, and to valorise the work when people are recognised, keeps the virtuous circle going. The pitfall to avoid is instrumentalisation, in which the institution takes for itself the credit for achievements without recognising those who produced them. Fair recognition always names the people, and fruitful valorisation serves individuals as much as the collective.

Ensuring fairness of recognition

Lastly, mature recognition cares about whom it reaches. This means actively seeking out quiet commitment, in less visible roles or less exposed settings, and not letting recognition always go to the same people. Diversifying the forms of recognition, varying the people brought into the spotlight and paying attention to silent contributions correct the natural bias that favours the most visible. This vigilance ties in with the requirement of fairness that runs through the whole model, and it prevents recognition, which is meant to support commitment, from ending up discouraging those it systematically forgets.

Recognition as a cultural signal

Beyond its effects on people, recognition acts as a cultural signal. What an institution recognises and valorises says, better than any speech, what it considers important. Rewarding digital engagement, showcasing teaching innovation and honouring work on AI gradually shape the culture, by showing everyone what counts. Conversely, an institution that recognises only research implicitly teaches that everything else is secondary.

This cultural dimension gives recognition a reach that extends beyond the people recognised. Every act of recognition is also a message addressed to the whole community. By choosing what it celebrates, the institution steers behaviour far more surely than by issuing instructions. Designing recognition with this signalling role in mind, and ensuring consistency between what you say you value and what you actually recognise, is one of the most powerful levers for changing a culture.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Valorising learning too

Recognition should not be limited to resounding successes. As the chapter on innovation pointed out, an experiment that fails but from which lessons are drawn has value, and that value deserves to be recognised. Celebrating only successes encourages excessive caution and discourages risk-taking, which innovation nevertheless needs. Valorising the learning drawn from attempts as well, unsuccessful ones included, sustains instead a culture in which people dare to explore.

This recognition of learning takes a certain courage, because it runs counter to the tendency to put forward only what shines. It consists in acknowledging an approach as much as a result, a path travelled as much as a success. By recognising what an experiment has made it possible to understand, even when it did not reach its goal, the institution supports the spirit of exploration and connects this domain to that of innovation. Mature recognition thus honours the intelligently taken risk as much as the guaranteed success.

8.6 The anti-patterns

Some configurations recur often enough to deserve a name. Spotting them makes it possible to act before they take hold.

ANTI-PATTERN	THE REMEDY
Token recognition	Reach careers as well, beyond the symbols.
The ignored prestige gap	Genuinely recognise digital teaching in promotions.
Worthless badges	Demanding, credible forms of recognition, backed by real commitment.
The reward that kills motivation	Recognise without turning commitment into a conditional reward.
Always the same people	Reach quiet commitment and the least exposed people as well.
Valorisation without substance	Disseminate and make reusable, ideally under an open licence.
Recognising without valorising, or the reverse	Credit the people and extend the reach of their work.
Institutional appropriation	Recognise those who produce the achievements.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Token recognition. Prizes and symbolic moments in the spotlight are multiplied, without ever touching careers. The gesture is reassuring but changes nothing in the underlying balances. The remedy is to act on career criteria as well, the only thing capable of sending an unambiguous signal.

The ignored prestige gap. People pretend to believe that commitment to digital teaching is recognised, while careers continue to reward research almost exclusively. The way out is to name this gap and to work explicitly on reducing it.

Worthless badges. Badges are handed out in abundance, with neither rigour nor credibility, until they no longer mean anything. Reserving badges for substantial forms of recognition, backed by standards, restores their meaning.

The reward that kills motivation. Recognition is turned into a system of conditional rewards, until people work only for the carrot. Designing recognition that supports meaning and autonomy preserves inner motivation.

Always the same people. Recognition systematically goes to the most visible, while quiet commitment is ignored. Unfairness discourages. Actively seeking out silent contributions restores fairness.

Valorisation without substance. Achievements are staged without ever being disseminated or made reusable. Communication stands in for valorisation. Genuine dissemination, under an open licence, gives valorisation its usefulness.

Recognising without valorising, or the reverse. People are recognised without their work being given any reach, or achievements are valorised without the people being credited. Linking the two, in a virtuous circle, avoids both dead ends.

Institutional appropriation. The institution takes for itself the credit for achievements without recognising those who produced them. Resentment sets in. Always naming the people, in every act of valorisation, defuses this drift.

8.7 A possible trajectory

Let us imagine a higher education institution where digital engagement rests entirely on goodwill. At the outset, it stands at level 1. An annual prize rewards a teaching innovation, which is appreciated, but careers continue to ignore teaching, and the achievements produced remain confidential. The AI pioneers, in particular, put in a considerable amount of work with no recognition at all, and some are beginning to run out of steam. A snapshot reveals recognition that is purely symbolic, with no hold on careers or on dissemination.

Rather than multiplying prizes, senior management tackles the substance. It begins the necessarily long work of bringing commitment to teaching and to digital practice into promotion criteria, and recognises from the outset the time devoted to innovation. It sets up a form

© Jean-François Van de Poël · CC BY-NC-SA 4.0

of valorisation that really disseminates achievements, under an open licence, and takes care always to credit the people. It introduces a few demanding badges to recognise specific commitments, including commitment to AI. Two years later, the domain reaches level 3: digital engagement is beginning to count in careers, achievements have a reach beyond the institution, and the pioneers at last feel recognised. Beyond the awards handed out, the institution has shifted what really counts.

8.8 What accomplished practice looks like

In an institution that is mature in this domain, commitment to teaching and to digital practice really counts in careers, beyond the speeches. Symbolic and community recognition accompanies it, designed to support inner motivation rather than to replace it. Badges and micro-credentials, where they exist, recognise substantial commitment and rest on credible standards. Achievements are valorised and disseminated, often under an open licence, so that they reach well beyond their point of origin and benefit the community. The link between the individual and the institutional works as a virtuous circle, in which recognising people strengthens the institution, and valorising the work honours its authors. Commitment to AI is recognised at its true worth, as in-depth work, and digital recognition tools are used simply as supports. Recognition also reaches quiet commitment, with a constant concern for fairness. Above all, this recognition is anchored in the institution's mechanisms and culture, and no longer depends on the goodwill of a few managers. It is by this continuity, more than by the number of prizes awarded, that you recognise an institution that truly values the commitment of its teams.

8.9 Where to begin, depending on your starting point

The way forward depends on the level reached. Three scenarios cover most situations.

If you are at level 0 or 1, the mistake would be to wait for a complete reform of careers before acting. Start by making existing achievements visible and valorising them, by really disseminating them rather than merely staging them. Establish sincere symbolic recognition, designed to support motivation. And begin, however modestly, to reflect on how digital engagement is taken into account in careers, because that is the fundamental undertaking that will give meaning to everything else. Recognising pioneering commitment to AI from the outset sends a valuable signal.

If you are at level 2, your difficulty lies in the absence of career recognition and in the weak link between recognition and valorisation. The effort then bears on three fronts. Move forward, in stages, with building digital engagement into career criteria. Link the recognition of people and the valorisation of achievements, always crediting the authors. And if you in-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

troduce badges, do so rigorously, avoiding proliferation. Ensuring fairness of recognition becomes essential at this stage.

If you are at level 3, the challenge becomes one of anchoring and maintaining. Consolidate the place of digital engagement in careers, so that it no longer depends on managers who happen to be convinced. Make sure that recognition continues to support motivation without distorting it. Keep up the open dissemination of achievements and the constant concern for fairness. Level 4 has to be maintained continuously, because cultures of recognition are slow to take root and quick to unravel.

8.10 The case of small institutions

All of this may seem tailored to large institutions with elaborate career mechanisms. Yet it applies to small institutions too. A small higher education institution often has room for manoeuvre that large ones lack, because its channels are short and recognition at close quarters comes naturally. A sincere word, a moment of visibility or consideration of the time invested carry all the more weight because people know one another.

Career recognition is sometimes more constrained there, for lack of formal mechanisms, but symbolic recognition and valorisation are all the more accessible. Pooling is valuable here: several small institutions can share badge schemes, valorise their achievements together and give themselves a visibility that none would have alone. The risk specific to small institutions is to take recognition for granted because of that closeness, and therefore to neglect it. Formalising it a little, even on a small scale, protects commitment from wearing out.

8.11 Indicators and questions to ask yourself

This last section brings together what is needed to evaluate the domain and feed the discussion. It aims to be exhaustive. Not all the elements will carry the same weight in every institution, but none should be set aside without some thought. Use the indicators to measure and to monitor over time, and the questions to position yourself honestly on the scale from 0 to 4.

The indicators to monitor

CAREER RECOGNITION

- explicit consideration of commitment to teaching and to digital practice in promotion criteria;
- effective recognition of the time devoted to teaching and innovation;
- actual application of these criteria in decisions, beyond their being displayed.

SYMBOLIC AND COMMUNITY RECOGNITION

- the existence of awards and of visibility given to digital engagement;

© Jean-François Van de Poël · CC BY-NC-SA 4.0

- the place of peer recognition, particularly in communities of practice;
- the design of these forms of recognition so that they support inner motivation.

BADGES AND MICRO-CREDENTIALS

- the credibility and rigour of any badges or micro-credentials;
- their grounding in open, interoperable standards;
- the absence of a proliferation that would empty them of meaning.

VALORISATION AND DISSEMINATION

- the existence of schemes for valorising and disseminating achievements;
- the share of achievements actually disseminated, ideally under an open licence;
- the transformation of isolated successes into collective resources.

LINKAGE AND FAIRNESS

- the link between recognition of people and valorisation of achievements;
- the practice of always crediting people in institutional valorisation;
- the attention paid to quiet commitment and the fairness of recognition.

ARTIFICIAL INTELLIGENCE

- recognition of thoughtful commitment to AI, in careers and in awards;
- the use of digital tools as supports for recognition, without mistaking them for it.

The five key indicators

Among all the indicators of this domain, five deserve to be tracked first. Annex C gives the full catalogue, with the definition, calculation, data source, frequency and owner of each indicator. The targets are benchmarks to adapt to your context.

KEY INDICATOR	TARGET	WHERE TO FIND THE DATA	FREQUENCY
Editorial rhythm Number of monthly publications that document teaching practices (articles, videos, testimonials).	**≥ 4 publications/ month (articles, videos, testimonials)**	Statistics from the website, blog and newsletter	Monthly
Recognition recorded in the career file Share of recognitions awarded that leave a trace in the career file (letter, mention, release time per local policies).	**100%**	Human resources management system	Annual
OERs deposited Change in the number of open educational resources deposited and in their reuse.	**+20%/year; reuse rising**	OER repository statistics	Quarterly

© Jean-François Van de Poël · CC BY-NC-SA 4.0

KEY INDICATOR	TARGET	WHERE TO FIND THE DATA	FREQUENCY
GDPR/ethics compliance of SoTL studies DATA Share of SoTL studies whose ethics and data protection dossier was validated before data collection.	**100% of validated dossiers**	Register of the ethics committee and the data protection officer	Annual
AI declaration on valorised productions AI Share of valorised productions (testimonials, guides, resources, award-winning dossiers) that carry an AI transparency note.	**100% (when relevant)**	Audit of productions against the transparency charter	Biannual

The questions to ask yourself

It is worth answering these questions as a group, requiring evidence for every affirmative answer, and noting disagreements rather than smoothing them over.

CAREER RECOGNITION

1. Does commitment to teaching and to digital practice count in promotion criteria?
2. Is the time devoted to teaching and innovation recognised?
3. Are these criteria really applied in decisions, or only displayed?
4. Have you named the prestige gap between research and teaching, and begun to reduce it?

SYMBOLIC RECOGNITION AND MOTIVATION

5. Are there sincere forms of symbolic recognition for digital engagement?
6. Is peer recognition cultivated, particularly in communities of practice?
7. Do these forms of recognition support inner motivation, rather than replacing it with a logic of reward?

BADGES AND VALORISATION

8. Are any badges or micro-credentials you have credible and demanding?
9. Do they rest on open standards, and do you avoid their proliferation?
10. Are achievements really disseminated and reusable, rather than merely staged?
11. Is open sharing, under a suitable licence, encouraged?

LINKAGE AND FAIRNESS

12. Do you recognise people by valorising their work, and vice versa?
13. Are people always credited when the institution valorises their achievements?
14. Does recognition reach quiet commitment, or does it always go to the same people?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

ARTIFICIAL INTELLIGENCE

15 Is thoughtful commitment to AI recognised as in-depth work, rather than as a passing fashion?

16 Are digital recognition tools used as supports, without taking the place of real recognition?

SUSTAINABILITY

17 Is recognition anchored in the institution's mechanisms and culture, rather than in the goodwill of a few managers?

18 Would it survive the departure of the people who champion it today?

A frank answer to these questions is worth more than a good score. It shows where to direct the effort, and that is exactly what a mature reading of recognition is supposed to make possible.

Let us keep hold of the idea that runs through this chapter. Recognising and valorising means making digital engagement count where things are really decided, in careers as in the dissemination of achievements, by supporting motivation rather than distorting it. It is this domain, often neglected, that stops the efforts of the other six from running dry. With it, the journey through the seven COMPASS domains comes to an end. It remains to be seen how to set the whole in motion, which is the subject of the conclusion.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Setting COMPASS in motion

Retracing the path

At the end of this journey, it is worth stepping back to take in the whole picture. COMPASS describes the digital maturity of a higher education institution through seven domains, which together form a system. Governance and strategy set the direction. The tool portfolio and infrastructure provide the means. Educator competencies and the professional development that helps them grow form a single domain, which is extended by the domain of students' digital competencies. Support and the helpdesk sustain everyday use. Projects and innovation renew practice. Valorisation and recognition, finally, keep the energy of the whole alive.

These seven domains are bound up with one another. A strategy without competencies remains a dead letter, tools without support disappoint, innovation without recognition runs out of steam. That is why COMPASS invites you to read them together, looking for imbalances as much as for strengths. Three cross-cutting requirements also run through every domain and are never suspended: accessibility and Universal Design for Learning, data protection, and the responsible use of artificial intelligence. These three axes are the ethical condition of every domain.

The same maturity scale applies to every domain, from absence to full maturity, by way of the pilot, partial and deployed levels. This scale rests on a simple idea that has run through the whole book. A practice is mature only when it survives the departure of those who launched it. As long as a scheme depends on the energy of a few people, it remains fragile, however good it is. Maturity is therefore a matter of durability and of taking root.

A compass rather than a map

The name of this model is no accident. A compass differs from a map: it gives a direction and helps you work out where you are, without pointing to a single route to follow. That is exactly what COMPASS seeks to offer. The model provides a common language and reference points so that each institution can decide on its own path, starting from where it stands and from what matters to it, without prescribing one right way of doing things that would hold for every institution.

This distinction has practical consequences. Using COMPASS as a map, trying to tick off all the highest levels mechanically, would betray its spirit. An institution does not have to be mature everywhere in the same way, nor aim indiscriminately for the top level in every domain. What matters is to understand where you are, to choose where you want to go, and to

© Jean-François Van de Poël · CC BY-NC-SA 4.0

progress in a way that is consistent with your values and your means. The compass does no more than orient.

Behind this stance lies a conviction that has guided the whole of this book. Technology is a means, never an end. What justifies all this effort is what these means make possible for people: learning better, teaching better, doing one's job with a greater sense of purpose. Putting people at the centre is the criterion that settles matters when the choices become difficult. Faced with a decision, the question is whether a technology, beyond its performance, genuinely serves those for whom the institution exists.

This conviction comes with a certain pragmatism. COMPASS argues for considered use, as far from wide-eyed enthusiasm for every novelty as from refusal on principle, a use that weighs benefits and limits and keeps human judgement in command. It values the process as much as the product, because a practice built with people is worth more than a perfect solution imposed from above. And it makes the case for open sharing, because the digital maturity of higher education is a common good, which grows when we pool what we have learned.

Guarding against the model itself

One last warning is needed, and it concerns COMPASS itself. Every model carries a risk: that of being taken for the reality it describes, and of turning into a rigid grid applied mechanically. COMPASS does not escape this danger. Reducing an institution to its scores in seven domains, forgetting the richness of the situations behind the levels, turning it into an instrument for comparison or ranking would betray its spirit. The model is a tool for reflection.

The best protection is to keep in mind that the map is not the territory. COMPASS helps us think about digital maturity, without exhausting it. Every institution is more complex than seven domains can say, and the reference points on offer must serve discernment without ever replacing it. Used with this humility, the model sheds light. Used as dogma, it blinds. In the end this is the same requirement we apply to technology: use the tool without letting it decide for us.

The threads that run through the domains

As we went through the seven domains, a few patterns came back so often that they deserve to be named, because they form the deep weave of the model. The first is the fragility of whatever depends on individuals. In every domain the same warning resurfaced: a practice carried by a few devoted individuals collapses when they leave, and only its embedding in habits makes it last. Maturity, again and always, is measured by this capacity to survive.

A second thread is the danger of formalism. Everywhere, deliverables have been described (frameworks, charters, portfolios, knowledge bases), yet everywhere the same reservation has been voiced: a document nobody uses transforms nothing. What counts is the real use of a scheme, far more than its formal existence. A third thread is the demand for equity, which has run through every domain in one form or another: the concern not to help only the most

© Jean-François Van de Poël · CC BY-NC-SA 4.0

autonomous, not to recognise the same people every time, not to design for an average profile while forgetting the others.

A fourth thread, finally, is the place of human judgement in the face of AI. In every domain, artificial intelligence has appeared as a powerful lever and a real risk, and the same answer has been proposed: a considered use that keeps people in control, as far from rejection as from fascination. These four threads, durability, real use, equity and judgement, weave the unity of the model across the diversity of its domains. Keeping them in mind is worth more than remembering every detail.

Bringing people on board

If only one thing were to be retained from all that precedes, it would be this. Digital maturity is built with people. You can buy tools, publish strategies and write frameworks, but you cannot decree buy-in, competence or commitment. These are earned, patiently, by involving those who will make digital practice live day to day. Setting COMPASS in motion is therefore above all a human matter.

Maturity is a matter of culture

Throughout this book, maturity has turned out to be a question of culture far more than of equipment. A mature domain is one where good practices have become shared habits, embedded in ways of working to the point of surviving the departure of the people who started them. Yet a culture is not changed by decree. Research on leading change in higher education shows that lasting transformations rest on ownership by people far more than on instructions from senior management (Fullan & Scott, 2009). What holds for change in general holds especially for digital matters, where the temptation to believe that a good tool will be enough to transform practice is constant, and constantly disappointed.

Starting with a conversation

The way COMPASS is introduced into an institution says a great deal about its chances of success. Presenting the model as an audit, with its scores and levels, risks making people tense and defensive. Presenting it as a support for conversation changes everything. The questions asked at the end of each chapter are often worth more than the scores they produce, because they open an honest dialogue about what works and what is missing. Placing yourselves collectively on the maturity scale, owning the disagreements rather than smoothing them over, is already an act of maturity. The aim is to understand together where to direct the effort. A self-assessment experienced as a dialogue engages people, where an audit endured divides them.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Giving meaning rather than instructions

Bringing people on board means giving them meaning, beyond instructions. Digital technology was long presented to educators in the form of technical obligations, disconnected from their pedagogical concerns, which fed resistance and weariness. Reversing this approach means starting from what matters to them, student success, the quality of teaching, the meaning of their work, and showing how a digital initiative can contribute to it. People rarely commit to a tool, but readily commit to a project that makes sense.

This also calls for an effort of translation. The digital field is riddled with jargon, acronyms and obscure concepts that exclude those who have not mastered them. Explaining simply, without condescension, by linking each notion to concrete situations, is part of bringing people on board. An approach that speaks a clear language, accessible to everyone, involves people far more widely than one reserved for insiders. Giving meaning and speaking plainly are two modest gestures, but they often make the difference between sincere commitment and token compliance.

Involving rather than imposing

Commitment is born of participation. A strategy built with educators, students and support services has a far better chance of living than a perfect strategy designed by a small group and circulated by memo. This truth, recalled in every domain, deserves to be placed at the heart of the approach. Involving people means recognising that they hold part of the knowledge required, the knowledge of the field, and that this knowledge is indispensable. It is also, quite simply, the condition for them to feel concerned. Communities of practice offer a natural setting for this involvement, making digital maturity a collective work rather than a top-down project (Wenger, 1998). Nothing engages people as much as having contributed to what they are asked to carry.

Respecting rhythms and people

Bringing people on board means respecting their rhythms. Not everyone moves at the same speed, and the classic work on the diffusion of innovations reminds us that a novelty spreads in successive circles, from the pioneers to the most cautious (Rogers, 2003). Two symmetrical errors lie in wait for those who steer the process. The first is to believe that a practice adopted by the enthusiasts will be adopted spontaneously by everyone, and to be surprised that the majority does not follow. The second is to judge a whole community by its most reluctant members, and to give up. The right course is to accompany this journey, meeting people where they are, with goodwill and without contempt. Digital technology has too often been experienced as a constraint to be endured, imposed by people who seemed unaware of the realities on the ground. Reversing that experience, by showing that the approach starts from real needs, is often the first step in bringing anyone on board.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Entrusting the process without bureaucratising it

A practical question soon arises: who carries the process? Leaving COMPASS without anyone at the helm risks its remaining a fine model with no effect. Entrusting it to a heavy dedicated structure risks turning it into a bureaucracy that stifles what it claims to drive. The right course is to identify people who carry the process, in connection with governance, without making it a separate administration. This shared carrying benefits from bringing together varied profiles, senior management, support services, educators, rather than resting on a single service.

The role of these people is to facilitate, to connect and to keep the momentum going. They make sure that the process does not run out of breath, that the chosen priorities move forward, that progress is shared. Above all, they embody the spirit of the model, that of a compass in the service of people. A process that is well carried feels like a support.

Recognising in order to last

Finally, people are brought on board for the long term only if their commitment is recognised. The last domain showed it: without recognition, energy runs out, whatever the initial conviction. To recognise is also to show that the commitment is seen, understood and appreciated, in a way that supports intrinsic motivation rather than replacing it with a logic of reward (Ryan & Deci, 2000). A COMPASS process that asks a great deal of people without ever recognising what they give will end up discouraging them. Conversely, a process that takes care to recognise, in careers as in everyday gestures, sustains the commitment that keeps it alive. Bringing people on board and recognising them are two sides of the same movement.

Taking action without doing everything at once

Understanding the model and wanting to bring people on board does not remove the need to act. The point is to act without spreading yourself too thin. The temptation, faced with seven domains and a maturity scale, is to want to improve everything at the same time. That is the surest way of improving nothing that lasts.

Placing yourself honestly

The starting point is an honest assessment. The questions offered at the end of each chapter serve precisely this purpose: positioning yourself without complacency on the scale from 0 to 4, domain by domain. A frank answer is always worth more than a good score. Acknowledging that a domain is lagging is the condition for improving it. This clear-sightedness is best exercised collectively, because a domain can look mature from above and deficient from the ground. Bringing perspectives together, by involving people from different levels and different services, gives a far more accurate picture than a solitary assessment.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Choosing a few priorities

Once you know where you stand, you have to choose. No institution can move all seven of its domains forward at once, and trying to pursue everything at the same time exhausts people without consolidating anything. It is better to choose a few priorities, taking two criteria into account: the gap to be closed and the importance for the institution. A domain that is far behind but of little consequence can wait, whereas a moderately mature but crucial domain deserves to be tackled. This choice means accepting that not everything will be dealt with, which is often the hardest part. Concentrating effort on two or three domains, and making real headway there, produces far more than spreading it thinly across all seven. Here we find again the balance between exploring and consolidating that runs through all change leadership.

Moving forward in small, reversible steps

Once the priorities are chosen, it is better to move forward in small steps than in great leaps. Modest changes, tested and adjusted, take hold more surely than ambitious reforms imposed in one go. This logic of iteration, borrowed from experimental methods, applies to the COMPASS process itself. Testing a scheme on a limited scope, drawing lessons from it, then extending it reduces the risks and reassures people. Small steps have another virtue: they are reversible. A modest change that does not work can be corrected without drama, where a large failed reform leaves lasting marks and feeds distrust of those that follow. Moving forward cautiously is a way of giving yourself the means to last.

Making progress visible

A transformation that moves forward without anyone seeing it ends up doubting itself. Making progress visible sustains the momentum and feeds commitment. Celebrating small advances, sharing what has been accomplished, showing that a domain has moved up a level gives people the sense that their effort counts and bears fruit. This visibility is a powerful driver of engagement, because nothing discourages as much as the impression of marking time.

Making progress visible also connects with the domain of valorisation. To highlight advances is to recognise those who made them possible, and so to sustain their commitment. This visibility is best kept honest, showing what remains to be done as well, rather than sliding into self-congratulation. A clear-eyed progress review, which salutes the distance covered without hiding the distance that remains, sustains both pride and the motivation to go further.

Never suspending the cross-cutting requirements

One rule admits no exception in setting things in motion. The three cross-cutting requirements, accessibility, data protection and the responsible use of AI, are never suspended, whatever the domain being worked on or the urgency felt. It would be tempting, in the heat of the action, to treat them as refinements to be added later. That would be a mistake, be-

© Jean-François Van de Poël · CC BY-NC-SA 4.0

cause they are ethical conditions. A brilliant but inaccessible scheme, a promising innovation that is careless with data, a use of AI without safeguards are steps backwards in disguise. Keeping these three requirements present at every stage is the sign of a maturity that does not sacrifice values to efficiency.

COMPASS in the age of artificial intelligence

This book was written at a particular moment, when generative artificial intelligence is shaking up higher education. It would be tempting to conclude that everything is changing, and that a maturity model designed beforehand must be out of date. The opposite is true. The seven COMPASS domains remain fully valid, and AI runs through them. It calls for governance that frames it, a portfolio that integrates it, new competencies among educators, supported by professional development that tames it, new competencies among students too, support that takes it on, projects that explore it, and recognition of those who break new ground with it. AI irrigates all seven domains.

What holds for the approach holds for the stance. AI makes more urgent than ever the conviction that runs through this book: people as the end and technology as the means. Faced with tools that produce quickly and confidently, errors included, human judgement becomes more precious. Digital maturity in the age of AI consists in knowing what can be entrusted to the machine and what must remain deeply human, in a co-agency led by people. This is the ridge line this book has tried to hold, between sterile rejection and blind fascination. It demands discernment, and that discernment is itself a competency to be cultivated, in everyone.

AI accelerates, but it does not remove the need for the patience that every human transformation demands. A tool can be adopted in a day; a culture is not changed in a term. This tension between the speed of technology and the slowness of people is perhaps the central challenge of the coming years. COMPASS offers a framework for holding both ends, moving fast enough not to be overtaken by events, and gently enough not to lose anyone, without claiming to be a miracle solution.

A final word

In the end, this whole book comes down to one image, that of a compass pointing towards people. The seven domains, the maturity scale, the questions and the reference points have value only through what they point to: an institution that serves its students better and supports its educators better. Digital maturity has always been a means in the service of the educational mission. An institution can reach the highest levels in every domain and miss what matters most, if along the way it has forgotten why it was doing all this.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Setting COMPASS in motion therefore means keeping a steady course towards people, moving forward in small, honest steps, bringing people on board rather than constraining them, and never sacrificing values to performance. It also means accepting that the path does not end, because maturity is an orientation to be maintained. Technologies will change, new tools will succeed generative AI, and the reference points will have to be adjusted. But the underlying question will remain the same: how to put these means at the service of people, with discernment and generosity.

This book is offered in that spirit, as an open contribution to a common good. It belongs to no one and is meant to be useful to all. If the reference points it proposes help institutions, even a little, to navigate this period of upheaval with greater clarity and humanity, it will have achieved its purpose. The compass is in your hands. The path is yours to trace.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Annex A · COMPASS and the AI Readiness diagnostic

COMPASS provides a steering architecture: seven domains, a scale from 0 to 4 and monitoring indicators. The AI Readiness diagnostic, conducted in parallel, supplies the substance specific to AI and its weighting. It identified fourteen invariants in a corpus of thirty-nine institutional sources published between 2023 and 2026, each with a consensus rate, that is, the share of sources that mention it. This annex shows how the two pieces of work fit together. The seven domains remain the skeleton; the fourteen invariants attach to them, and each domain receives an AI focus.

Three points of connection

- Two of the COMPASS cross-cutting requirements, data protection and accessibility with universal design, correspond to invariants of the diagnostic (invariants 3 and 12), raised to the rank of a requirement for all domains. The third, responsible AI, overlaps with several invariants, in particular transparency (2), accountability of actors (4) and the place of AI as assistant (11).
- Both approaches use a five-level scale. The language of 0 to 4 serves as the common reference.
- The ethical anchoring is shared. The centrality of the human pedagogical relationship (invariant 13) and AI in the service of human judgement (invariant 11) express the principle that guides the whole model: people as the end, technology as the means.

Correspondence table: fourteen invariants, seven domains

Each invariant is attached to a lead domain and to contributing domains. A high consensus indicates something the corpus treats as established, to be secured. A low consensus signals a maturity frontier, where few institutions yet venture.

#	INVARIANT	CONSENSUS	LEAD DOMAIN · CONTRIBUTORS
1	**Training, awareness and acculturation**	**85%**	P3 Educator competencies · P4
2	**Transparency and usage declaration**	**77%**	P1 Governance · P3 · P4 · P7 · P2
3	**Data protection and confidentiality**	**74%**	P2 Tool portfolio · P1 · cross-cutting data requirement
4	**Accountability of actors**	**74%**	P1 Governance · P3 · P4
5	**Academic and scientific integrity**	**62%**	P4 Student competencies · P3 · P2 · P5

© Jean-François Van de Poël · CC BY-NC-SA 4.0

#	INVARIANT	CONSENSUS	LEAD DOMAIN · CONTRIBUTORS
6	**Risk awareness (bias, hallucinations)**	**56%**	P3 Educator competencies · P4 · P2 · P5
7	**Assessment reform**	**47%**	P3 Educator competencies · P2
8	**Critical thinking and systematic verification**	**44%**	P4 Student competencies · P3
9	**AI literacy and digital competencies**	**38%**	P3 · P4
10	**Digital sobriety and ecology**	**36%**	P1 (policy) · P2 (infrastructure)
11	**AI in the service of human judgement**	**31%**	P3 · P4 (stance) · P1 (principles)
12	**Equity, inclusion and accessibility**	**31%**	P4 Student competencies · P2 · cross-cutting accessibility requirement
13	**Centrality of the human pedagogical relationship**	**28%**	P3 (anchor)
14	**Governance and steering of the framework**	**18%**	P1 Governance · P6

Three markers of advanced maturity

Among the least cited invariants in the corpus, three relate directly to institutional steering and trace the current frontier. An institution that already addresses them clearly stands out.

Governance and steering (18%). Dedicated steering of AI, with a multidisciplinary body, a known composition and a revision cadence, appears in only 18% of the sources.

Centrality of the human relationship (28%). Preserving professional judgement and the relationship between educator and student in the face of AI mediation features in 28% of the sources.

Digital sobriety and ecology (36%). Awareness and control of the environmental footprint of AI use remain a minority concern, at 36% of the sources.

The AI focus of each domain

For each domain, the focus indicates what AI changes there, the invariants attached to it, a few monitoring indicators and the steering question that sums up what is at stake. The numerical targets are indicative and come from the AI Readiness diagnostic.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Abbreviations used: DPIA, data protection impact assessment; DPO, data protection officer; OER, open educational resources; SoTL, scholarship of teaching and learning; SSO and MFA, single sign-on and multi-factor authentication; KB, knowledge base; NPS and CSAT, measures of user satisfaction.

P1 · DIGITAL GOVERNANCE AND STRATEGY

This is where AI stops being a sum of individual uses and becomes an object of governance: usage policy (permitted/prohibited), transparency required in courses, accountability of actors and, as a maturity marker, the very existence of an AI steering body. Digital sobriety enters here as a policy orientation.

Invariants. Governance & steering of the framework (18%, maturity marker); Transparency and usage declaration (77%, framework); Accountability of actors (74%, lead); Digital sobriety and ecology (36%, orientation).

Indicators. AI policy in force under 24 months; Policy coverage at least 90% (including AI); AI transparency in courses at least 80% then 100%; DPIAs completed: 100% of at-risk tools.

Steering question. Do we have a dedicated, multidisciplinary AI body with a revision cadence and public minutes?

P2 · TOOL PORTFOLIO AND INFRASTRUCTURE

The technical bedrock of AI: sovereign and safe environments, per-tool "data & AI" fact sheets, DPIAs, oversight of transfers outside Switzerland and the EU, per-tool risk matrices. It is also the locus of operational sobriety (infrastructure choices) and of online-assessment integrity, with robust methods before any resort to proctoring.

Invariants. Data protection and confidentiality (74%, cross-cutting data requirement); Academic integrity (online assessment) (62%, lead); Risk awareness (bias, hallucinations) (56%, per-tool matrix); Digital sobriety and ecology (36%, infrastructure).

Indicators. "Data & AI" sheets published at least 95% (under 12 months); SSO/MFA: 100% of critical tools; Data/AI incidents resolved at least 90% under 30 days; LMS/video uptime at least 99.5%.

Steering question. Does every AI tool have a "data & AI" sheet readable in two minutes, and a documented non-AI alternative?

P3 · EDUCATOR COMPETENCIES

The pedagogical core: activity design and assessment reform (authorisation levels, valuing process, oral defence, two tracks), critical reading of bias and hallucinations, and the stance: AI as assistant, in the service of human judgement, which remains sovereign. This is the anchor of human centrality. The corpus's strongest invariant (Training, 85%) lives here: AI literacy, ethics, prompting, design and assessment in the AI era, confidentiality. The steering challenge lies in real transfer into practice, beyond satisfaction measured on the spot.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Invariants. Training, awareness, acculturation (85%, lead, strongest invariant); Assessment reform (47%, lead); Risk awareness (bias, hallucinations) (56%, contributor); AI literacy and digital competencies (38%, contributor); AI as assistant, not substitute (31%, stance); Centrality of the human pedagogical relationship (28%, anchor).

Indicators. AI transparency in courses at least 80% then 100% of course outlines; Pedagogical coherence at least 80% at threshold (rubric); Self-positioning at least 70% / year; Progress of at least 1 level for at least 40% / year; AI module participation at least 60% / year; Classroom transfer at least 60% (under 8 weeks); Freshness of resources at least 90% (under 12 months); Badges issued: annual increase.

Steering questions. Are our assessments redesigned for the AI era? Does our AI offer produce measurable practice change?

P4 · STUDENTS' DIGITAL COMPETENCIES

AI literacy and critical thinking / systematic verification, academic integrity, student-side usage transparency (logbook, citation), and access equity. Clear, stable AI rules that are consistent across courses.

Invariants. Academic and scientific integrity (62%, lead); Critical thinking and systematic verification (44%, lead); AI literacy and digital competencies (38%, contributor); Equity, inclusion and accessibility (31%, cross-cutting accessibility requirement); Transparency and usage declaration (77%, student facet).

Indicators. AI rules published (presence + cross-course consistency); Entry diagnostic at least 80% of incoming students; Digital hygiene at least 85% (phishing); Self-reported digital ease at least 4/5.

Steering question. In every course, do students know what is allowed, and do they have an alternative when AI is excluded?

P5 · SUPPORT AND HELPDESK

AI at the service desk: a living AI FAQ, bias/hallucination/copyright alerts on tools, fair handling of false positives (plagiarism/AI) with appeal routes, AI clinics. This is where integrity becomes a fair, traceable procedure.

Invariants. Academic integrity (false-positive handling) (62%, lead); Risk awareness (alerts) (56%, contributor); Training (knowledge base) (85%, contributor).

Indicators. KB freshness at least 90% of articles under 12 months (including AI sheets); Median first response at most 8 h; Median clinic appointment lead time at most 7 days; Support NPS above 0 and CSAT at least 4/5.

Steering question. Does an AI-fraud accusation follow a published procedure, with presumption of fairness and an appeal route?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P6 · PROJECTS AND INNOVATION

Controlled-risk AI experimentation: sandbox with DPIA, impact evaluation plans, reasoned go/no-go decisions, clean sunset. This is the operational arm of governance: here you decide, on evidence, to deploy or stop an AI use.

Invariants. Governance & steering (decision facet) (18%, lead); Data protection (DPIA) (74%, contributor); Risk awareness (bias, hallucinations) (56%, contributor).

Indicators. DPIAs completed: 100% of at-risk AI projects; Complete evaluation plans: 100%; Go/No-go under 30 days post-report at least 90%; Sunset managed: 100% (migration + communication).

Steering question. Do our AI pilots lead to a reasoned decision within thirty days?

P7 · VALORISATION AND RECOGNITION

AI transparency applied to recognised outputs: usage declaration on OER and SoTL work, traceability of AI contributions, ethics, GDPR and nFADP compliance. Transparency becomes here a norm of publication and recognition.

Invariants. Transparency and usage declaration (77%, lead); Accountability of actors (74%, contributor).

Indicators. AI traceability on OER: 100% (declaration where relevant); AI declaration on recognised outputs: 100%; Ethics, GDPR and nFADP compliance of SoTL studies: 100%; Editorial rhythm at least 4 publications/month.

Steering question. Do our resources and publications carry a transparency note on the use of AI?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Annex B · The online questionnaire (version 2.0)

The questionnaire of the online version (ialliance.ch/compass, version 2.0) has sixty-one questions, seven to nine per domain, and fifteen for domain 3, which brings together two strands. Each is scored from 0 to 4: absent, pilot, partial, deployed, mature. The badges flag the questions that feed the three cross-cutting lenses described in section 1.5. The score of a domain is the average of its questions, with the AI questions counting for one third. The score of domain 3 is the average of its two strands. The COMPASS Maturity Index then weights the domains: 18% for governance and for the tool portfolio, 16% for educator competencies, for support and for projects, 8% for student competencies and for valorisation.

The questions are reproduced here to allow work on paper, in a workshop, or a comparison with the more detailed self-assessment questions that close each chapter.

P1 · DIGITAL GOVERNANCE AND STRATEGY

1. Do you have an AI usage policy (permitted / prohibited / conditions) that is revised and actually applied? AI
2. Is there a clear educational digital strategy, communicated to all actors?
3. Does a multidisciplinary body steer AI (composition, revision cadence, minutes)? AI
4. Do stakeholders (educators, students, leadership) take part in setting priorities?
5. Is transparency about AI use required and traced in courses and institutional outputs? AI
6. Do you track regular progress indicators (adoption, satisfaction, impact)?
7. Is digital sobriety, including the footprint of AI use, set as a policy orientation? AI
8. Is data protection (GDPR/nFADP) managed at institutional level: processing register, DPIAs, DPO involved in decisions? DATA

P2 · TOOL PORTFOLIO AND INFRASTRUCTURE

1. Does the institution offer a clear catalogue of tools (LMS, video, collaboration, assessment)?
2. Does every AI-bearing tool have a "data & AI" sheet and a DPIA where risk requires it? AI DATA
3. Are the tools interoperable (SSO, LTI, API) and accessible (WCAG)? ACCESSIBILITY
4. Is a non-AI alternative documented for uses where AI is unwanted or excluded? AI
5. Is there a process to request a new tool or experiment in a sandbox?
6. Does online-assessment integrity rest first on robust methods, before any resort to proctoring? AI
7. Does a continuity plan (SLA, backups, plan B) cover critical services?

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P3 · EDUCATOR COMPETENCIES

STRAND 1 · FRAMEWORK AND STATE OF COMPETENCIES

1. Have you adopted a digital competency framework (e.g. DigCompEdu)?
2. Do educators redesign their assessments for the AI era (authorisation levels, process, oral defence)? AI
3. Can they self-position and follow an individualised trajectory?
4. Can they critically read the biases and hallucinations of AI systems? AI
5. Is the emphasis on pedagogical design, beyond the tool?
6. Is the stance "AI as assistant, human judgement remains sovereign" explicitly worked on? AI
7. Is AI transparency declared in course plans and to students?

STRAND 2 · PROFESSIONAL DEVELOPMENT AND RECOGNITION

8. Do you offer continuing development (workshops, micro-learning, certifications)?
9. Do you offer modules dedicated to AI (literacy, ethics, prompting, assessment in the AI era)? AI
10. Is individual support available (consultations, pedagogical helpdesk)?
11. Do you measure the actual transfer of AI uses into the classroom, beyond immediate satisfaction? AI
12. Are open resources (guides, videos, scenarios) available and up to date?
13. Do you encourage sharing of practice (testimonies, community, events)?
14. Does recognition (badges, micro-credentials) value upskilling, including on AI? AI
15. Are trainings themselves accessible (captioned replays, compliant materials) and do they teach universal design (UDL)? ACCESSIBILITY

P4 · STUDENTS' DIGITAL COMPETENCIES

1. Do you assess students' basic digital skills on entry?
2. Is there an AI-literacy programme (critical thinking, verification, citing uses)? AI
3. Do students have access to a helpdesk and support on tools?
4. Are AI usage rules clear, stable and consistent from one course to another? AI
5. Are transversal skills (collaboration, creation) developed in projects?
6. Does academic integrity include AI usage transparency (declaration, logbook)? AI
7. Is an alternative provided for students when AI is excluded from an activity? AI
8. Do mechanisms reduce access inequalities (device lending, licences, spaces, accommodations for students with disabilities)? ACCESSIBILITY
9. Are students informed about the data collected on them (platforms, learning analytics, AI tools) and about their rights? DATA

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P5 · SUPPORT AND HELPDESK

1. Do you have a clear, responsive helpdesk with request tracking?
2. Does the knowledge base include a living AI FAQ and up-to-date tool sheets? AI
3. Do you communicate regularly about services (newsletter, site, blog)?
4. Do suspicions of AI-related fraud follow a published procedure, with presumption of fairness and an appeal route? AI
5. Are timelines (first response, resolution) announced and met?
6. Does support alert on AI-tool risks (bias, hallucinations, copyright)? AI
7. Do you offer clinics or consultations for advanced uses?
8. Are help channels and the knowledge base accessible (multiple channels, WCAG compliance, captioned videos)? ACCESSIBILITY

P6 · PROJECTS AND INNOVATION

1. Do you have a process to support innovation projects (calls, funding)?
2. Do AI experiments go through a sandbox with DPIA and a risk framework? AI
3. Do you encourage participation in external calls (national, international)?
4. Does each AI pilot lead to a reasoned go / no-go decision within a defined timeframe? AI
5. Do you showcase successful projects (conferences, publications, internal sharing)?
6. Is the end of an AI use managed cleanly (sunset, migration, communication)? AI
7. Do projects rely on explicit impact-evaluation plans?

P7 · VALORISATION AND RECOGNITION

1. Is digital engagement institutionally recognised (bonuses, workload relief, awards)?
2. Do recognised resources (OERs) carry a transparency note on AI contributions? AI
3. Are innovative practices made visible (testimonies, blog, videos)?
4. Does SoTL work declare AI uses and respect ethics and GDPR? AI DATA
5. Is there a clear scientific-recognition policy (SoTL, publications)?
6. Is the traceability of AI contributions ensured in disseminated outputs? AI
7. Do disseminated contents respect accessibility (WCAG / UDL)? ACCESSIBILITY

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Annex C · Catalogue of indicators

This annex lists the 297 indicators of the COMPASS catalogue, domain by domain and theme by theme. For each one it gives a definition, the way to calculate it, a target, the place where the data can be found, the collection frequency and the role that owns it. The five key indicators of each domain are marked with a star.

Three badges recall the cross-cutting lenses: AI for responsible AI, ACCESSIBILITY for accessibility and Universal Design for Learning, DATA for data protection. The SURVEY badge marks the indicators that rely on a questionnaire; annex D proposes a template for each of them.

The indicators that already appeared in version 1.1 keep their targets. The targets of the new indicators are proposed benchmarks: they do not come from a published source and are meant to be adapted to each institution. No institution needs to track all of these indicators. The catalogue is a place to choose from.

P1 Digital Governance and Strategy 42

ALIGNMENT & POLICIES

★ Strategy in force — Document published < 24 months

Existence of an educational digital strategy that is validated, published and less than two years old.

CALCULATION Number of months elapsed since validation or the last revision of the published document. DATA Institutional website, validation minutes FREQUENCY Annual OWNER Executive board or rectorate

Policy coverage AI ACCESSIBILITY DATA — ≥ 90% (quality, UDL, GDPR, OER, AI)

Share of the expected transversal policies that exist, are validated and are linked to the strategy: quality, accessibility/UDL, data protection and security, open educational resources, responsible AI.

CALCULATION Policies in force and referenced in the strategy ÷ expected policies (5). DATA Annual audit of institutional texts FREQUENCY Annual OWNER Quality or steering unit

Milestones achieved — ≥ 80% per quarter

Share of roadmap milestones achieved by the planned deadline.

CALCULATION Milestones achieved in the quarter ÷ milestones planned for the quarter. DATA Roadmap dashboard FREQUENCY Quarterly OWNER Digital education steering committee

Faculty adaptation margins — ≥ 80%

Share of institutional digital education policies that specify what belongs to the shared framework and what is left to the judgement of faculties and educators.

CALCULATION Policies containing an explicit adaptation clause ÷ policies in force. DATA Texts of institutional policies FREQUENCY Annual OWNER Executive board or rectorate, with the deans' offices

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Strategy revision carried out

Yes, at every cycle

Compliance with the annual or biennial revision procedure for the strategy.

CALCULATION Yes or no; evidence: written procedure and record of the last revision within the planned timeframe. **DATA** Minutes of the body that validates the strategy **FREQUENCY** Annual **OWNER** Executive board or rectorate

Awareness of the strategy SURVEY

≥ 60%

Share of educators who report knowing the educational digital strategy and its priorities.

CALCULATION "Somewhat agree" or "strongly agree" responses ÷ respondents. **DATA** Annual survey of educators **FREQUENCY** Annual **OWNER** Teaching support centre

GOVERNANCE & ROLES

Instances held

≥ 90% of planned meetings

Share of the planned meetings of the steering bodies that actually took place.

CALCULATION Meetings held ÷ meetings planned over the year. **DATA** Minutes **FREQUENCY** Annual **OWNER** Digital education steering committee

Formalised roles

100%

Share of the roles in the governance diagram (deans' offices, IT, data protection, pedagogical support, accessibility) that have a written mandate.

CALCULATION Roles with a written and validated mandate ÷ roles shown in the diagram. **DATA** Roles diagram, job specifications **FREQUENCY** Annual **OWNER** Executive board or rectorate

Deans' offices decision-making power made explicit

100%

Share of faculties whose decision-making power and responsibilities for digital education are described in writing.

CALCULATION Faculties with a text describing this role ÷ total number of faculties. **DATA** Faculty regulations and directives **FREQUENCY** Annual **OWNER** Deans' offices

Composition of the steering committee ACCESSIBILITY DATA

6 out of 6

Diversity of the profiles sitting on the steering committee: educators, students, deans' offices, IT, data protection, accessibility.

CALCULATION Number of profiles represented, out of 6. **DATA** List of committee members **FREQUENCY** Annual **OWNER** Executive board or rectorate

Decision processes published

3 out of 3

Publication of the decision processes for tool introduction, training priorities and project selection.

CALCULATION Number of processes described and published, out of 3. **DATA** Institutional website or intranet **FREQUENCY** Annual **OWNER** Digital education steering committee

Decision time for a tool

≤ 90 days

Time needed to rule on a request to introduce a digital teaching tool.

CALCULATION Median number of days between submission of the request and communication of the decision. **DATA** Register of tool requests **FREQUENCY** Every six months **OWNER** IT department, with the teaching support centre

PARTICIPATION & COMMUNICATION

Recurring consultations

≥ 2 per year for each audience

Number of consultation mechanisms run during the year with educators and students (surveys, focus groups, communities).

CALCULATION Count of consultations held, per audience. **DATA** Calendar and records of consultations **FREQUENCY** Annual **OWNER** Teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Consultation response rate SURVEY ≥ 30%

Share of the people invited who respond to surveys on digital education.

CALCULATION Complete responses ÷ people invited, per audience. DATA Institutional survey tool FREQUENCY At each survey OWNER Quality or steering unit

Follow-up to consultations 100%

Share of consultations followed by published feedback on what was retained, set aside or postponed.

CALCULATION Consultations with feedback published within 3 months ÷ consultations held. DATA Institutional website, messages to participants FREQUENCY Annual OWNER Digital education steering committee

★ Decisions published with criteria ≥ 90%

Share of digital education governance decisions published with their criteria, the alternatives considered and the expected impacts.

CALCULATION Decisions published with criteria ÷ decisions taken by the bodies. DATA Catalogue of decisions, minutes FREQUENCY Every six months OWNER Digital education steering committee

Decision publication time ≤ 30 days

Time elapsed between a decision by a body and its publication.

CALCULATION Median number of days between the meeting and the online publication of the minutes. DATA Minutes and online publication dates FREQUENCY Every six months OWNER Secretariat of the bodies

Post-incident reviews 100%

Share of major incidents and tool withdrawals followed by a written review with corrective actions.

CALCULATION Major incidents with a documented review ÷ major incidents in the year. DATA Incident register, review reports FREQUENCY Annual OWNER IT department

DATA-DRIVEN STEERING

★ Shared dashboard DATA 5 out of 5, updated every six months

Existence of a steering dashboard covering tool adoption, pedagogy, accessibility, incidents and costs, accessible to stakeholders.

CALCULATION Number of areas covered by up-to-date data, out of 5. DATA Institutional dashboard tool FREQUENCY Every six months OWNER Quality or steering unit

Purposes of learning data DATA 100%

Share of learning data processing activities whose purpose, retention period and recipients are documented.

CALCULATION Processing activities documented on these three points ÷ learning data processing activities identified. DATA Processing register FREQUENCY Annual OWNER Data protection officer

Pedagogical impact evaluation ≥ 60%

Share of the priority initiatives in the roadmap evaluated against a common framework (success, engagement, equity, workload).

CALCULATION Initiatives evaluated against the framework ÷ priority initiatives. DATA Initiative evaluation reports FREQUENCY Annual OWNER Teaching support centre

Indicators broken down by audience ACCESSIBILITY ≥ 50%

Share of dashboard indicators broken down by faculty and by student profile, to identify equity gaps.

CALCULATION Indicators broken down ÷ dashboard indicators. DATA Steering dashboard FREQUENCY Annual OWNER Quality or steering unit

© Jean-François Van de Poël · CC BY-NC-SA 4.0

CAPACITIES & RESOURCES

Multi-year earmarked budget — Yes, over 3 years

Existence of a digital education budget covering several years, distinguishing operating and investment.

CALCULATION Yes or no; evidence: validated budget covering at least 3 years. **DATA** Institutional financial plan **FREQUENCY** Annual **OWNER** Executive board or rectorate, with the finance department

Funding of the roadmap — ≥ 80%

Share of roadmap priorities with an allocated budget.

CALCULATION Priorities with a budget line ÷ priorities listed. **DATA** Roadmap, budget **FREQUENCY** Annual **OWNER** Digital education steering committee

Key competencies covered AI ACCESSIBILITY — 5 out of 5

Availability of the competencies needed for steering: pedagogy, engineering, data, accessibility, AI.

CALCULATION Number of areas with at least one identified person or a planned recruitment, out of 5. **DATA** Organisation chart, recruitment and training plan **FREQUENCY** Annual **OWNER** Human resources, with the teaching support centre

Tools under framework agreement — ≥ 90%

Share of the tools in the institutional portfolio covered by a contract that sets out support, service levels and exit conditions.

CALCULATION Tools under contract with these clauses ÷ tools in the institutional portfolio. **DATA** Register of contracts and licences **FREQUENCY** Annual **OWNER** IT department, with the procurement department

Standards audits ACCESSIBILITY — ≥ 80%

Share of the main tools audited for interoperability, security and accessibility over the last two years.

CALCULATION Tools audited within the last 24 months ÷ main tools. **DATA** Audit reports **FREQUENCY** Annual **OWNER** IT department

COMPLIANCE & ETHICS

DPIAs completed DATA — 100% of at-risk tools

Share of at-risk tools for which a data protection impact assessment was carried out before going into service.

CALCULATION At-risk tools with a validated impact assessment ÷ tools classified as at-risk. **DATA** Files of the data protection officer **FREQUENCY** Annual **OWNER** Data protection officer

Processing register up to date DATA — 100%

Share of teaching-related processing activities reviewed during the year.

CALCULATION Records reviewed within the last 12 months ÷ teaching-related processing records. **DATA** Processing register **FREQUENCY** Annual **OWNER** Data protection officer

Data protection opinions DATA — 100%

Share of tool introduction decisions taken with a written opinion from the data protection officer.

CALCULATION Decisions with a written opinion ÷ tool introduction decisions. **DATA** Register of tool requests **FREQUENCY** Annual **OWNER** Data protection officer

Student information DATA — 100%

Share of institutional tools whose data usage notice is accessible from the tool or the course space.

CALCULATION Tools with an accessible notice ÷ institutional tools. **DATA** Check of the tool portfolio **FREQUENCY** Annual **OWNER** Data protection officer, with the IT department

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Appeals in academic integrity AI — 100%

Share of cases of suspected unauthorised AI use handled under a written procedure that provides a route of appeal and rules out a decision based solely on the result of a detector.

CALCULATION Cases handled under the procedure ÷ cases opened. **DATA** Faculty academic integrity files **FREQUENCY** Annual **OWNER** Deans' offices

Accessibility of resources ACCESSIBILITY — ≥ 80%

Share of the course resources examined that meet accessibility requirements (captions, WCAG-compliant documents).

CALCULATION Compliant resources ÷ resources in the sample. **DATA** Audit of a sample of course spaces **FREQUENCY** Annual **OWNER** Accessibility service, with the teaching support centre

AI STEERING

★ AI policy in force AI — < 24 months, revised

Existence of an AI usage policy (permitted, prohibited, conditions) that is validated, published and revised within the last two years.

CALCULATION Number of months elapsed since validation or the last revision. **DATA** Institutional website, minutes of the AI body **FREQUENCY** Annual **OWNER** AI steering body

AI steering body AI — Yes, ≥ 4 meetings per year

Existence of a multidisciplinary body in charge of AI, with a mandate, a calendar and published minutes.

CALCULATION Yes or no; evidence: mandate, list of members, minutes for the year. **DATA** Minutes of the body **FREQUENCY** Annual **OWNER** Executive board or rectorate

Owner of the AI policy AI — Yes, report every year

Appointment of a person responsible for the AI policy, with mandate, resources and accountability.

CALCULATION Yes or no; evidence: written mandate and annual report. **DATA** Appointment decision, annual report **FREQUENCY** Annual **OWNER** Executive board or rectorate

★ AI transparency in courses AI — ≥ 80% → 100% of course plans

Share of course plans that specify the permitted or prohibited uses of AI and how to declare them.

CALCULATION Course plans with an AI usage note ÷ course plans in the sample. **DATA** Sampled audit of course plans **FREQUENCY** Annual **OWNER** Deans' offices

Understanding of the AI policy AI SURVEY — ≥ 70%

Share of educators and students who report knowing what the AI policy permits and prohibits.

CALCULATION "Somewhat agree" or "strongly agree" responses ÷ respondents, per audience. **DATA** Annual surveys of educators and students **FREQUENCY** Annual **OWNER** Teaching support centre

AI decisions justified and published AI — ≥ 90%

Share of decisions to permit or prohibit an AI use published with their justification.

CALCULATION Decisions published and justified ÷ decisions taken. **DATA** Catalogue of decisions of the AI body **FREQUENCY** Every six months **OWNER** AI steering body

Non-AI alternatives AI — 100%

Share of courses requiring an AI tool that offer students an equivalent alternative.

CALCULATION Courses with a described alternative ÷ courses in the sample requiring an AI tool. **DATA** Sampled audit of course plans **FREQUENCY** Annual **OWNER** Deans' offices

© Jean-François Van de Poël · CC BY-NC-SA 4.0

AI risk register AI

≤ 6 months

Currency of the register of AI-related risks (bias, hallucinations, privacy, false positives) and of its measures.

CALCULATION Number of months elapsed since the last review of the register by the body. **DATA** Risk register, minutes **FREQUENCY** Every six months **OWNER** AI steering body

AI footprint estimated AI

Yes, every year

Estimate of the environmental footprint of institutional AI uses and its inclusion in budget trade-offs.

CALCULATION Yes or no; evidence: quantified estimate presented during budget preparation. **DATA** Sustainability report, budget files **FREQUENCY** Annual **OWNER** IT department, with the sustainability department

P2 Tool Portfolio and Infrastructure 42

CATALOGUE AND READABILITY

★ Catalogue coverage

100% of tools listed

Share of the digital teaching tools and services in use that appear in the public catalogue, with status, uses, limits and support.

CALCULATION Tools listed in the catalogue ÷ tools identified by the inventory, including unofficial tools. **DATA** Internal audit of the catalogue, inventory of licences and tools **FREQUENCY** Biannual **OWNER** IT department, with the teaching support centre

★ "Data & AI" sheets published AI DATA

≥ 95% up-to-date (< 12 months)

Share of catalogue tools with an up-to-date "data & AI" sheet (data processed, retention, transfers, AI used, risks, alternatives).

CALCULATION Tools whose sheet was published or revised less than 12 months ago ÷ tools in the catalogue. **DATA** Institutional website, tool register **FREQUENCY** Biannual **OWNER** Data protection officer, with the IT department

Catalogue consultation

Rising from one year to the next

Use of the catalogue by educators and students.

CALCULATION Unique visitors to the catalogue over the year ÷ educators and students of the institution. **DATA** Traffic statistics of the catalogue website **FREQUENCY** Annual **OWNER** Teaching support centre

Awareness of the catalogue SURVEY

≥ 75%

Share of educators who say they know where to find information on the tools supported by the institution.

CALCULATION "Somewhat agree" or "strongly agree" responses ÷ respondents. **DATA** Annual survey of educators **FREQUENCY** Annual **OWNER** Teaching support centre

Up-to-date and contextualised tutorials ACCESSIBILITY

≥ 80%

Share of catalogue tools that come with an accessible, recently revised tutorial and at least one discipline-specific usage scenario.

CALCULATION Tools with a tutorial revised less than 24 months ago and at least one discipline-specific scenario ÷ tools in the catalogue. **DATA** Inventory of help resources, revision dates **FREQUENCY** Annual **OWNER** Teaching support centre

ACCESS AND IDENTITY

★ SSO/MFA coverage

100% of critical tools

Share of critical tools accessible through single sign-on with multi-factor authentication.

CALCULATION Critical tools under SSO and MFA ÷ tools classified as critical. **DATA** IT department, identity directory and service configuration **FREQUENCY** Biannual **OWNER** IT department

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Standardised roles and permissions ≥ 90%

Share of critical tools whose roles (educator, student, assistant, guest) are assigned automatically from the identity repository.

CALCULATION Critical tools with automatic role assignment ÷ tools classified as critical. **DATA** Integration documentation, service configuration **FREQUENCY** Annual **OWNER** IT department

Managed external accounts DATA 100%

Share of guest and external accounts that have an expiry date and an identified responsible person.

CALCULATION Active external accounts with an expiry date and a responsible person ÷ active external accounts. **DATA** Identity directory, register of external accounts **FREQUENCY** Biannual **OWNER** IT department

Access-related tickets Falling from one year to the next

Share of support requests that concern a login, account or permissions problem.

CALCULATION Tickets classified as "access" ÷ total tickets on teaching tools. **DATA** Support request management tool **FREQUENCY** Quarterly **OWNER** IT department

INTEROPERABILITY AND INTEGRATION

Documented and tested integrations ≥ 90%

Share of LMS integrations (LTI, Caliper, API) described in the integration framework and tested after each major update.

CALCULATION Integrations documented and tested during the year ÷ active integrations. **DATA** Integration framework, test log **FREQUENCY** Annual **OWNER** IT department

Minimisation of transmitted data DATA 100%

Share of integrations for which the list of data transmitted to the third-party tool is documented and limited to what is necessary.

CALCULATION Integrations with a documented and validated data list ÷ active integrations. **DATA** Integration framework, register of processing activities **FREQUENCY** Annual **OWNER** Data protection officer

Metadata consistency ≥ 98%

Consistency of courses, cohorts and roles between the academic management system and the LMS.

CALCULATION Course spaces whose enrolments and roles match the academic system ÷ course spaces checked. **DATA** Cross-check of the academic management system and the LMS **FREQUENCY** Biannual **OWNER** IT department

Standards required at procurement 100%

Share of new tools whose specifications required open integration standards (SSO, LTI, documented API).

CALCULATION Procurements of the year with an open standards requirement ÷ procurements of the year. **DATA** Procurement files and specifications **FREQUENCY** Annual **OWNER** IT department, with the procurement department

DATA, PROTECTION AND RESPONSIBLE AI

Coverage of the register of processing activities DATA 100%

Share of catalogue tools entered in the register of personal data processing activities.

CALCULATION Tools entered in the register ÷ catalogue tools processing personal data. **DATA** Register of processing activities **FREQUENCY** Annual **OWNER** Data protection officer

DPIA of at-risk tools AI DATA 100%

Share of at-risk tools, including those that embed AI or process sensitive data, that have undergone a data protection impact assessment.

CALCULATION At-risk tools with a validated DPIA ÷ tools classified as at risk. **DATA** DPIA register kept by the data protection officer **FREQUENCY** Annual **OWNER** Data protection officer

© Jean-François Van de Poël · CC BY-NC-SA 4.0

AI transparency notes AI — 100%

Share of tools embedding AI that display a note explaining the use of AI, the data processed and the non-AI alternative.

CALCULATION AI tools with a transparency note visible to users ÷ catalogue tools embedding AI. **DATA** Tool catalogue, checks of interfaces and course spaces **FREQUENCY** Annual **OWNER** Teaching support centre, with the data protection officer

Governed transfers outside the EU DATA — 100%

Share of tools transferring data outside the EU whose contract includes standard contractual clauses or an equivalent safeguard.

CALCULATION Tools with a transfer outside the EU governed by contract ÷ tools with a transfer outside the EU. **DATA** Supplier contracts, register of processing activities **FREQUENCY** Annual **OWNER** Data protection officer

Data/AI incidents resolved AI DATA — ≥ 90% within 30 days

Share of incidents affecting personal data or an AI service that are closed within the set time limit.

CALCULATION Incidents closed in less than 30 days ÷ incidents recorded over the period. **DATA** Incident register **FREQUENCY** Quarterly **OWNER** Data protection officer, with the IT department

ACCESSIBILITY AND INCLUSION

★ Captioned media (verified) ACCESSIBILITY — ≥ 90%

Share of institutional video content with captions reviewed after automatic generation.

CALCULATION Videos with verified captions ÷ videos published on the institutional platform. **DATA** Video platform **FREQUENCY** Biannual **OWNER** Teaching support centre

Tools assessed against WCAG ACCESSIBILITY — ≥ 80%

Share of catalogue tools that have undergone a documented accessibility assessment at level AA.

CALCULATION Tools with an accessibility assessment less than 36 months old ÷ tools in the catalogue. **DATA** Assessment reports, suppliers' accessibility statements **FREQUENCY** Annual **OWNER** IT department, with the department in charge of accessibility

Accessibility required at procurement ACCESSIBILITY — 100%

Share of new tools whose accessibility was examined before the purchasing decision.

CALCULATION Procurements of the year with an assessed accessibility criterion ÷ procurements of the year. **DATA** Procurement files and specifications **FREQUENCY** Annual **OWNER** IT department, with the procurement department

Use of accessible templates ACCESSIBILITY — ≥ 50%, rising

Share of new course spaces created from an accessible template that complies with universal design principles (UDL).

CALCULATION Course spaces created from an accessible template ÷ course spaces created during the year. **DATA** LMS (source template of course spaces) **FREQUENCY** Annual **OWNER** Teaching support centre

Tests with people with disabilities ACCESSIBILITY — Yes, every year

Running of usage tests of the main tools with people with disabilities, followed by a remediation plan.

CALCULATION Yes or no, with the test report and the remediation plan; number of tools tested. **DATA** User test reports **FREQUENCY** Annual **OWNER** Department in charge of accessibility, with the teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

CONTINUITY AND SECURITY

★ LMS/video uptime

≥ 99.5% uptime

Time during which the LMS and the video conferencing service are actually available, excluding announced maintenance.

CALCULATION Measured uptime ÷ total time of the period. **DATA** Monitoring tool (monthly report) **FREQUENCY** Monthly **OWNER** IT department

Key services under a service commitment

100%

Share of key services that have a written commitment on uptime and response time.

CALCULATION Key services with an SLA in force ÷ services classified as key. **DATA** Supplier contracts, IT service catalogue **FREQUENCY** Annual **OWNER** IT department

Recovery plan test

Yes, every year, objectives met

Completion of a test of backup restoration and recovery of critical services, with verification of the RPO and RTO objectives.

CALCULATION Yes or no, with the test report and the measured times. **DATA** Report on the continuity plan tests **FREQUENCY** Annual **OWNER** IT department

Time to inform users

≤ 2 working hours

Time elapsed between the detection of a major incident and the first communication to the people concerned.

CALCULATION Median time between detection and first communication, across the major incidents of the period. **DATA** Incident register, service status page **FREQUENCY** Biannual **OWNER** IT department

Load resilience during examination periods

0 major incidents

Number of performance or unavailability incidents that occurred during examination sessions and the start of term.

CALCULATION Count of major incidents during the peak periods defined in the load plan. **DATA** Monitoring tool, incident register **FREQUENCY** At each session **OWNER** IT department

ONLINE ASSESSMENT AND INTEGRITY

Use of proctoring AI

In the minority and falling

Share of online examinations monitored by a proctoring system.

CALCULATION Online examinations with proctoring ÷ online examinations of the year. **DATA** Examination management system, assessment platform **FREQUENCY** Annual **OWNER** Deans' offices

Governed proctoring AI DATA

100%

Share of proctored examinations that combine prior information, a DPIA, an alternative offered and a procedure for reviewing flags.

CALCULATION Proctored examinations meeting the four conditions ÷ proctored examinations. **DATA** Examination files, DPIA register **FREQUENCY** Annual **OWNER** Deans' offices, with the data protection officer

Flags reviewed by a person AI

100%

Share of automatic fraud flags examined by a person before any follow-up action.

CALCULATION Flags reviewed by a person ÷ flags issued by detection or monitoring tools. **DATA** Assessment platform, academic integrity files **FREQUENCY** Annual **OWNER** Deans' offices

Statement on AI use in examinations AI

≥ 80%

Share of examinations whose instructions specify whether the use of AI is permitted and how to declare it.

CALCULATION Examinations with explicit instructions on AI ÷ examinations in the sample reviewed. **DATA** Audit of a sample of examination instructions **FREQUENCY** Annual **OWNER** Deans' offices, with the teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

AI SERVICES

AI use cases framed by context AI

Yes, four contexts covered

Existence of a published list of permitted and prohibited AI uses for each context (course preparation, feedback, translation, analytics).

CALCULATION Yes or no, with the published list; number of contexts covered out of the four. **DATA** Institutional website, AI policy **FREQUENCY** Annual **OWNER** Senior management or rectorate

Access to a safe AI environment AI

≥ 90%

Share of educators and students who have an institutional account on an approved AI service.

CALCULATION People with institutional access to an approved AI service ÷ educators and students. **DATA** Identity directory, administration console of the AI service **FREQUENCY** Annual **OWNER** IT department

Guaranteed non-reuse of data AI DATA

100%

Share of AI services provided whose contract excludes the reuse of data for model training.

CALCULATION AI services with a non-reuse clause ÷ AI services in the catalogue. **DATA** Supplier contracts, "data & AI" sheets **FREQUENCY** Annual **OWNER** Data protection officer

Documented non-AI alternative AI

100%

Share of tools embedding AI for which a non-AI solution is described for the same use.

CALCULATION AI tools with a non-AI alternative described in the sheet ÷ catalogue tools embedding AI. **DATA** Tool catalogue, "data & AI" sheets **FREQUENCY** Biannual **OWNER** Teaching support centre

AI risk matrix AI

100%

Share of tools embedding AI that are assessed in the risk matrix (bias, errors, automated decisions, sobriety).

CALCULATION AI tools with an assessment less than 12 months old ÷ catalogue tools embedding AI. **DATA** AI risk matrix by tool **FREQUENCY** Annual **OWNER** Digital governance body

Traceability of AI in assessment AI

100%

Share of arrangements where AI contributes to a mark or to evaluative feedback and whose prompts given to the model and outputs are retained and verifiable.

CALCULATION Arrangements with documented prompts and outputs ÷ identified assessment arrangements that use AI. **DATA** Survey of arrangements across faculties, course documentation **FREQUENCY** Annual **OWNER** Deans' offices

CONTROLLED EVOLUTION

Processing time for tool requests

≤ 60 days

Time elapsed between the request for a new tool and the reasoned decision communicated to the person who submitted it.

CALCULATION Median number of days between submission and decision, across the requests of the year. **DATA** Register of requests for new tools **FREQUENCY** Annual **OWNER** IT department, with the teaching support centre

Framed sandbox experiments AI

100%

Share of tools under test that have entry criteria, a duration and measures of pedagogical and ethical impact.

CALCULATION Experiments with defined criteria, duration and measures ÷ ongoing experiments. **DATA** Sandbox register **FREQUENCY** Biannual **OWNER** Digital governance body

Exit decisions on time

≥ 90%

Share of experiments that have reached their end date and led to a documented decision to deploy or to close, including support capacity.

CALCULATION Experiments closed by a reasoned decision at the planned end date ÷ experiments that have reached their end date. **DATA** Sandbox register, minutes of the governance body **FREQUENCY** Annual **OWNER** Digital governance body

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Withdrawals with a migration plan 100%

Share of tools withdrawn with migration of content and data, an alternative offered and advance notice to users.

CALCULATION Withdrawals of the year with a migration plan applied and at least 6 months' notice ÷ tools withdrawn during the year. **DATA** Withdrawal files, communications to users **FREQUENCY** Annual **OWNER** IT department, with the teaching support centre

P3 Educator Competencies 48

STRAND 1 Framework and state of competencies

FRAMEWORK AND OWNERSHIP

Framework comprehension SURVEY ≥ 70%

Share of educators who report understanding the competency framework and knowing where they stand on it.

CALCULATION "Somewhat agree" or "strongly agree" responses ÷ respondents. **DATA** Annual survey of educators **FREQUENCY** Annual **OWNER** Teaching support centre

Disciplinary examples of the framework ≥ 80%

Share of faculties for which the framework is illustrated with discipline-specific examples (scenarios, tasks, criteria).

CALCULATION Faculties with at least one published set of examples ÷ total number of faculties. **DATA** Competency framework website, resource inventory **FREQUENCY** Annual **OWNER** Teaching support centre, with the deans' offices

Currency of the framework AI ≤ 24 months

Age of the last revision of the framework, including the update of the AI component.

CALCULATION Number of months since the last validated revision. **DATA** Minutes of the body that validates the framework **FREQUENCY** Annual **OWNER** Teaching steering body

Transversal dimensions integrated into the framework AI 3 out of 3

ACCESSIBILITY DATA

Presence, in the framework itself, of descriptors on accessibility, data protection and responsible AI.

CALCULATION Number of transversal dimensions covered by explicit descriptors, out of 3. **DATA** Text of the competency framework **FREQUENCY** At each revision **OWNER** Teaching support centre

SELF-ASSESSMENT AND TRAJECTORIES

★ Self-assessment rate ≥ 70% per year

Share of educators who completed the self-assessment against the framework during the year.

CALCULATION Completed self-assessments ÷ educators in post. **DATA** Self-assessment platform (aggregated data) **FREQUENCY** Annual **OWNER** Teaching support centre

Action plans generated ≥ 60%

Share of self-assessments leading to an action plan with a 1 to 3 year target.

CALCULATION Recorded action plans ÷ completed self-assessments. **DATA** Self-assessment platform **FREQUENCY** Annual **OWNER** Teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

★ Progression ≥ 1 level

≥ 40% per year

Share of educators who progressed by at least one level on one competency of the framework from one year to the next.

CALCULATION People who progressed ÷ people who self-assessed two years in a row. **DATA** Self-assessment platform, N and N+1 comparison **FREQUENCY** Annual **OWNER** Teaching support centre

Renewal of the self-assessment

≥ 50%

Share of educators who self-assessed the previous year and repeat the exercise.

CALCULATION People who self-assessed in N and in N+1 ÷ people who self-assessed in N. **DATA** Self-assessment platform **FREQUENCY** Annual **OWNER** Teaching support centre

Level dashboard by faculty DATA

Published every year, all faculties

Existence of an aggregated dashboard of the level distribution, shared with the deans' offices.

CALCULATION Published or not; number of faculties covered. **DATA** Institutional dashboard tool **FREQUENCY** Annual **OWNER** Quality or steering unit

Gap between faculties

Decreasing from one year to the next

Difference in average level between the most advanced and the least advanced faculty.

CALCULATION Highest average level minus lowest average level, on the framework scale. **DATA** Level dashboard by faculty **FREQUENCY** Annual **OWNER** Teaching steering body

PEDAGOGICAL DESIGN AND ACCESSIBILITY

Pedagogical coherence

≥ 80%

Share of reviewed courses whose objectives, activities and assessment are aligned, according to a common rubric.

CALCULATION Courses at the rubric threshold ÷ courses in the sample. **DATA** Audit of a sample of course plans **FREQUENCY** Annual **OWNER** Teaching support centre, with programme leads

Use of design frameworks

≥ 50%

Share of supported scenarios that were analysed with a design framework (SAMR, TPACK, CoI).

CALCULATION Scenarios analysed with a framework ÷ supported scenarios. **DATA** Support records of the pedagogical advisers **FREQUENCY** Annual **OWNER** Teaching support centre

Accessibility of course materials ACCESSIBILITY

≥ 80%

Share of sampled course spaces whose materials meet the selected accessibility criteria.

CALCULATION Compliant course spaces ÷ course spaces in the sample. **DATA** Accessibility audit on the LMS **FREQUENCY** Annual **OWNER** Accessibility lead

Documented inclusive alternatives ACCESSIBILITY

≥ 60%

Share of courses offering at least one alternative for an activity or an assessment (format, mode, deadline).

CALCULATION Courses with a documented alternative ÷ courses in the sample. **DATA** Course plans, sample audit **FREQUENCY** Annual **OWNER** Programme leads

AI: STANCE AND ASSESSMENT

★ AI transparency in courses AI

≥ 80%, then 100%

Share of course plans that specify what is permitted or prohibited regarding AI, how to cite and which data to protect.

CALCULATION Course plans with an AI usage note ÷ course plans reviewed. **DATA** Audit of course plans **FREQUENCY** Biannual **OWNER** Deans' offices, with the teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Assessments redesigned for the AI era AI SURVEY

≥ 50% within two years

Share of courses that have revised at least one assessment (process, oral, authenticity, two-track).

CALCULATION Courses with at least one revised assessment ÷ courses in scope. **DATA** Survey of course leads, support records **FREQUENCY** Annual **OWNER** Programme leads

Use of an authorisation-level grid AI

≥ 60%

Share of courses that break down AI authorisation levels by activity type.

CALCULATION Courses using the grid ÷ courses reviewed. **DATA** Audit of course plans **FREQUENCY** Annual **OWNER** Deans' offices

AI pedagogical coherence AI

≥ 80%

Share of courses where the use of AI is aligned with the learning objectives, according to a rubric.

CALCULATION Courses at the AI rubric threshold ÷ courses reviewed. **DATA** Review of course plans **FREQUENCY** Annual **OWNER** Teaching support centre

Integrity cases based on detection alone AI DATA

0%

Share of academic integrity procedures opened solely on the basis of an AI detector.

CALCULATION Procedures based only on a detector ÷ AI-related procedures. **DATA** Register of academic integrity procedures (anonymised data) **FREQUENCY** Annual **OWNER** Academic integrity body

Critical reading of AI outputs AI SURVEY

≥ 70%

Share of educators who say they are able to spot bias and hallucinations in their discipline.

CALCULATION Positive responses ÷ respondents. **DATA** Annual survey of educators **FREQUENCY** Annual **OWNER** Teaching support centre

Knowledge of data rules for AI AI DATA SURVEY

≥ 80%

Share of educators who know the rules on which data may be entered into an AI tool.

CALCULATION Correct answers to a scenario-based question ÷ respondents. **DATA** Annual survey of educators **FREQUENCY** Annual **OWNER** Data protection officer

STRAND 2 Professional development and recognition

OFFER AND PARTICIPATION

Coverage of the offer

≥ 80%

Share of level × format combinations covered by at least one training (beginner to advanced; synchronous, asynchronous, micro-learning).

CALCULATION Cells covered ÷ cells in the levels × formats matrix. **DATA** Training catalogue **FREQUENCY** Annual **OWNER** Teaching support centre

Participation in professional development

≥ 50% per year

Share of educators who took part in at least one professional development activity during the year.

CALCULATION Unique participants ÷ educators in post. **DATA** Enrolment system, LMS **FREQUENCY** Annual **OWNER** Teaching support centre

★ AI module participation AI

≥ 60% per year

Share of educators who took at least one module dedicated to AI (literacy, ethics, design, assessment).

CALCULATION Unique participants in AI modules ÷ educators in post. **DATA** Enrolment system, LMS **FREQUENCY** Annual **OWNER** Teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Equity of participation by status DATA

≤ 15 points

Participation gap between staff categories (professors, mid-level academic staff, lecturers).

CALCULATION Highest participation rate minus lowest rate, in points. **DATA** Enrolment system cross-referenced with aggregated HR data **FREQUENCY** Annual **OWNER** Teaching support centre, with HR

Pathway completion

≥ 70%

Share of pathways started that are completed.

CALCULATION Pathways completed ÷ pathways started. **DATA** LMS **FREQUENCY** Annual **OWNER** Teaching support centre

Training content accessibility ACCESSIBILITY

≥ 90% captioned replays

Share of training recordings and materials that are compliant (captions, readable documents, alternatives).

CALCULATION Captioned replays ÷ published replays; same calculation for materials. **DATA** Audit of training content **FREQUENCY** Quarterly **OWNER** Accessibility lead

Training in universal design ACCESSIBILITY

≥ 30% per year

Share of participants who took at least one module on universal design for learning (UDL).

CALCULATION Participants in UDL modules ÷ participants of the year. **DATA** Enrolment system, LMS **FREQUENCY** Annual **OWNER** Teaching support centre

ALIGNMENT TO NEEDS

Needs assessment SURVEY

Conducted every year, response ≥ 30%

Holding of an annual needs assessment of educators and response level obtained.

CALCULATION Assessment conducted or not; respondents ÷ educators invited. **DATA** Needs survey, interviews **FREQUENCY** Annual **OWNER** Teaching support centre

Alignment of the offer to the framework

≥ 90%

Share of trainings linked to at least one competency and one level of the framework.

CALCULATION Linked trainings ÷ trainings in the catalogue. **DATA** Training catalogue **FREQUENCY** Annual **OWNER** Teaching support centre

Use of competency data

Yes, every year

Documented consideration of self-assessment results in the planning of the offer.

CALCULATION Yes or no, with a record in the annual training plan. **DATA** Annual training plan **FREQUENCY** Annual **OWNER** Teaching steering body

SUPPORT

Clinic appointment delay

Median ≤ 7 days

Time between the request for an individual consultation and the appointment.

CALCULATION Median delay, in days. **DATA** Appointment booking or ticketing tool **FREQUENCY** Monthly **OWNER** Teaching support centre

Volume of individual consultations

≥ 20 per 100 educators

Number of individual pedagogical consultations relative to the number of educators.

CALCULATION Consultations of the year ÷ educators in post × 100. **DATA** Appointment booking or ticketing tool **FREQUENCY** Annual **OWNER** Teaching support centre

Satisfaction with support SURVEY

≥ 4 out of 5

Rating of the usefulness of consultations by the people supported.

CALCULATION Average of ratings out of 5. **DATA** Short questionnaire after consultation **FREQUENCY** Continuous, annual review **OWNER** Teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

RESOURCES

Resource freshness — ≥ 90%

Share of resources (guides, scenarios, AI sheets) revised within the last twelve months.

CALCULATION Resources updated within 12 months ÷ published resources. **DATA** Resource inventory **FREQUENCY** Biannual **OWNER** Teaching support centre

Use of resources DATA — Increasing from one year to the next

Consultation of the resource library by educators.

CALCULATION Unique visitors ÷ educators in post. **DATA** Statistics of the resource website (aggregated) **FREQUENCY** Annual **OWNER** Teaching support centre

Resources published under an open licence — ≥ 50%

Share of new resources released as open educational resources.

CALCULATION New resources under an open licence ÷ new resources. **DATA** Resource inventory, institutional repository **FREQUENCY** Annual **OWNER** Teaching support centre, with the library

COMMUNITIES OF PRACTICE

Active communities of practice — At least one per faculty

Number of communities holding at least four meetings per year, and coverage of faculties.

CALCULATION Count of active communities; faculties represented ÷ total. **DATA** Calendar and meeting reports of the communities **FREQUENCY** Annual **OWNER** Community facilitators

Participation in communities — ≥ 15%

Share of educators taking part in at least one meeting of a community of practice.

CALCULATION Unique participants ÷ educators in post. **DATA** Attendance lists **FREQUENCY** Annual **OWNER** Community facilitators

Place of AI in peer exchanges AI — ≥ 30%

Share of meetings and pedagogical days explicitly addressing AI (reasoned demonstrations, ethical debates).

CALCULATION Meetings with an AI item ÷ meetings of the year. **DATA** Meeting programmes **FREQUENCY** Annual **OWNER** Community facilitators

RECOGNITION

Badges awarded — Annual increase; ≥ 40% in the first year

Number of badges or micro-certifications awarded and share of educators who hold one.

CALCULATION Annual count; holders ÷ educators in post. **DATA** Badge system **FREQUENCY** Annual **OWNER** Teaching support centre

Badges mapped to the framework — 100%

Share of badges and micro-certifications corresponding to a competency and a level of the framework.

CALCULATION Mapped badges ÷ existing badges. **DATA** Badge system **FREQUENCY** Annual **OWNER** Teaching support centre

Formal recognition of engagement — ≥ 50%

Share of faculties where professional development is taken into account (career portfolio, release time, letters).

CALCULATION Faculties with a written rule ÷ total number of faculties. **DATA** Faculty regulations, HR directives **FREQUENCY** Annual **OWNER** Deans' offices, with HR

© Jean-François Van de Poël · CC BY-NC-SA 4.0

TRANSFER AND IMPACT

★ Transfer to classroom SURVEY — ≥ 60%

Share of participants who report applying at least one strategy within eight weeks of the training.

CALCULATION Positive responses ÷ respondents to the delayed follow-up. DATA Follow-up questionnaire 6 to 8 weeks after the training FREQUENCY After each training, annual review OWNER Teaching support centre

Transfer of AI uses to class AI SURVEY — ≥ 60%

Share of participants in AI modules who modified an activity or an assessment within eight weeks.

CALCULATION Positive responses ÷ respondents to the delayed follow-up. DATA Follow-up questionnaire 6 to 8 weeks after the module FREQUENCY After each module, annual review OWNER Teaching support centre

Immediate satisfaction SURVEY — ≥ 4 out of 5

Immediate rating of trainings, to be read alongside transfer and never on its own.

CALCULATION Average of ratings out of 5. DATA End-of-training questionnaire FREQUENCY After each training OWNER Teaching support centre

Tool usage before and after training DATA — Increasing

Change in the use of the features covered in training, at aggregate level.

CALCULATION Average usage after training ÷ average usage before, by cohort. DATA LMS and tool logs, aggregated and anonymised FREQUENCY Annual OWNER IT department, with the teaching support centre

Effects perceived by students DATA SURVEY — Increasing

Change in student ratings (clarity, feedback, engagement, inclusion) in participants' courses.

CALCULATION Difference between teaching evaluations before and after, at aggregate level. DATA Student evaluation of teaching FREQUENCY Annual OWNER Quality unit

P4 Students' Digital Competencies — 40

DIAGNOSTIC AND PATHWAYS

★ Entry diagnostic completed — ≥ 80% of incoming students (L1/M1)

Share of incoming students who have completed the digital competencies diagnostic.

CALCULATION Diagnostics completed ÷ incoming students in the first year of bachelor's and master's programmes. DATA Diagnostic platform, cross-checked with the enrolment register FREQUENCY Annual OWNER Teaching support centre

Entry diagnostic (AI literacy) AI — ≥ 80% of entrants

Share of incoming students who have completed the AI literacy section of the diagnostic.

CALCULATION AI sections completed ÷ incoming students. DATA Entry test, diagnostic platform FREQUENCY Annual OWNER Teaching support centre

Recommended pathways generated — 100%

Share of diagnostics that lead to a personalised recommendation of modules or resources.

CALCULATION Diagnostics followed by a recommended pathway ÷ diagnostics completed. DATA Diagnostic platform FREQUENCY Annual OWNER Teaching support centre

Recommended pathways followed — ≥ 60% of diagnosed students

Share of diagnosed students who follow at least one module of their recommended pathway.

CALCULATION Students who have completed at least one recommended module ÷ diagnosed students. DATA Learning platform (LMS) FREQUENCY Biannual OWNER Teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Progression after the diagnostic — ≥ 50%

Share of students who gain at least one level of the framework between the entry diagnostic and a second self-positioning at the end of the first year.

CALCULATION Students showing progression ÷ students positioned twice. **DATA** Diagnostic platform, comparison between entry and end of year **FREQUENCY** Annual **OWNER** Teaching support centre

ACCESS EQUITY AND ACCESSIBILITY

Mapping of access inequalities SURVEY — Yes, every year

Existence of a review of students' equipment, connectivity and barriers to access.

CALCULATION Yes or no; evidence: dated report based on a student survey. **DATA** Annual student survey, report from the student affairs office **FREQUENCY** Annual **OWNER** Student affairs office

Loan requests fulfilled — ≥ 90%

Share of equipment loan requests (computer, network access) that are fulfilled.

CALCULATION Loan requests fulfilled ÷ eligible loan requests. **DATA** Loan register **FREQUENCY** Biannual **OWNER** IT department

Equipment loan lead time — ≤ 5 working days

Time elapsed between a loan request and the handover of the equipment.

CALCULATION Median time in working days between the request and the handover. **DATA** Loan register, ticketing tool **FREQUENCY** Biannual **OWNER** IT department

Required software available free of charge — 100%

Share of the software required by courses that students can access free of charge (institutional licence, equipped room or open-source alternative).

CALCULATION Required software accessible free of charge ÷ required software listed in course plans. **DATA** Licence inventory, course plans **FREQUENCY** Annual **OWNER** IT department, with the deans' offices

Accessible training resources ACCESSIBILITY — ≥ 90%

Share of modules and tutorials for students that meet accessibility criteria (captions, structured documents, contrast).

CALCULATION Resources compliant with the accessibility checklist ÷ resources reviewed. **DATA** Accessibility audit of the resource catalogue **FREQUENCY** Annual **OWNER** Teaching support centre

Lead time for digital accommodations ACCESSIBILITY — ≤ 10 working days

Time needed to put in place a digital accommodation requested by a student with a disability.

CALCULATION Median time in working days between the validated request and implementation. **DATA** Register of the office in charge of accommodations **FREQUENCY** Biannual **OWNER** Office in charge of study accommodations

PROGRAMME AND CURRICULARISATION

Currency of the student framework AI — ≤ 24 months

Age of the last revision of the student digital competency framework, including its AI component.

CALCULATION Number of months elapsed since the last validated revision. **DATA** Minutes of the body that validates the framework **FREQUENCY** Annual **OWNER** Teaching steering body

Domains covered by modules — 7 out of 7

Number of framework domains for which a module exists (information, media, data, security, collaboration, creation, AI).

CALCULATION Count of domains with at least one published module, out of 7. **DATA** Module catalogue **FREQUENCY** Annual **OWNER** Teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Modules in various formats ACCESSIBILITY ≥ 70%

Share of modules offered in at least two formats (online self-study, workshop, short resource).

CALCULATION Modules available in two or more formats ÷ total modules. **DATA** Module catalogue **FREQUENCY** Annual **OWNER** Teaching support centre

Completion of the AI literacy module AI ≥ 70%

Share of first-year students who have completed the AI literacy module (strengths and limits, bias, citation, privacy).

CALCULATION Students who have completed the module ÷ first-year students. **DATA** Learning platform (LMS) **FREQUENCY** Annual **OWNER** Teaching support centre

★ Programmes assessing digital competencies ≥ 60%

Share of study programmes in which at least one course assesses digital competencies with explicit criteria.

CALCULATION Programmes with at least one course with a dedicated rubric ÷ total programmes. **DATA** Study plans, course plans, assessment rubrics **FREQUENCY** Annual **OWNER** Deans' offices

Ready-to-integrate scenarios AI ≥ 80%

Share of faculties whose educators have scenarios for activities with AI accompanied by a non-AI alternative.

CALCULATION Faculties with at least one published set of scenarios ÷ total faculties. **DATA** Teaching resource library **FREQUENCY** Annual **OWNER** Teaching support centre, with the deans' offices

RESPONSIBLE AI AND TRANSPARENCY

★ AI rules published AI Present + inter-course consistency

Presence of a common framework on AI use and share of course plans that apply it consistently.

CALCULATION Common framework published (yes or no); course plans specifying permitted and prohibited uses in line with this framework ÷ course plans reviewed. **DATA** Course plans, sample audit **FREQUENCY** Biannual **OWNER** Deans' offices

AI rules known to students AI SURVEY ≥ 80%

Share of students who say they know, in each of their courses, what is permitted with regard to AI.

CALCULATION "Somewhat agree" or "strongly agree" responses ÷ respondents. **DATA** Annual student survey **FREQUENCY** Annual **OWNER** Quality unit

AI rules communicated from the start of the course AI 100%

Share of courses whose AI usage rules are published before the first session and remain unchanged during the semester.

CALCULATION Courses with rules published on time and not modified ÷ courses reviewed. **DATA** Course plans, publication history on the learning platform **FREQUENCY** Biannual **OWNER** Deans' offices

Non-AI alternative provided AI ACCESSIBILITY 100%

Share of activities where AI is required or excluded that provide an equivalent route for students who cannot or do not want to use it.

CALCULATION Activities with a described alternative ÷ relevant activities in the sample. **DATA** Course plans, assessment instructions **FREQUENCY** Annual **OWNER** Deans' offices

AI transparency kit distributed AI ≥ 90%

Share of incoming students who have received the transparency kit (how to cite, trace and verify an AI use).

CALCULATION Students who have consulted the kit or attended its presentation ÷ incoming students. **DATA** Consultation statistics, welcome days programme **FREQUENCY** Annual **OWNER** Teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Activities with a usage declaration AI

≥ 50%

Share of courses in which at least one activity asks students to make AI use explicit (declaration, logbook, verification of sources).

CALCULATION Courses with at least one activity of this type ÷ courses in the sample. **DATA** Audit of a sample of course plans and instructions **FREQUENCY** Annual **OWNER** Teaching support centre

Integrity cases involving an unframed use AI

0

Number of AI-related academic integrity procedures concerning a use that the course had not explicitly framed.

CALCULATION Annual count of the procedures concerned, relative to the total number of AI-related procedures. **DATA** Register of academic integrity procedures **FREQUENCY** Annual **OWNER** Body in charge of academic integrity

Information on data collected DATA AI

Yes, revised every year

Existence of clear information for students on the data collected about them (platforms, learning analytics, AI tools) and on their rights.

CALCULATION Yes or no; evidence: notice published, up to date and provided on entry. **DATA** Institutional website, register of processing activities **FREQUENCY** Annual **OWNER** Data protection officer

SUPPORT AND ACCOMPANIMENT

★ Helpdesk SLA

≤ 24h 1st response; ≥ 80% < 72h

Responsiveness of the student helpdesk: time to first response and share of requests resolved quickly.

CALCULATION Median time to first response; requests resolved in under 72 hours ÷ total requests. **DATA** Ticketing tool **FREQUENCY** Monthly **OWNER** IT department

Satisfaction with the helpdesk SURVEY

≥ 4/5

Average student satisfaction after a request has been handled.

CALCULATION Average of satisfaction ratings on a scale of 1 to 5. **DATA** Ticket closure questionnaire **FREQUENCY** Quarterly **OWNER** IT department

Currency of the FAQ and tutorials AI

≥ 90%

Share of FAQ entries and tutorials, including the AI component, reviewed in the last twelve months.

CALCULATION Entries reviewed within the last 12 months ÷ total entries. **DATA** Content management system (revision dates) **FREQUENCY** Biannual **OWNER** Teaching support centre

Peer tutoring coverage

≥ 80%

Share of faculties with active digital student ambassadors.

CALCULATION Faculties with at least one active ambassador ÷ total faculties. **DATA** List of ambassadors, tutoring schedule **FREQUENCY** Annual **OWNER** Teaching support centre, with the deans' offices

Recognition of ambassadors

100%

Share of digital student ambassadors whose commitment is formally recognised (certificate, credits or remuneration).

CALCULATION Ambassadors receiving formal recognition ÷ total ambassadors. **DATA** Tutoring records, contracts or certificates issued **FREQUENCY** Annual **OWNER** Deans' offices

© Jean-François Van de Poël · CC BY-NC-SA 4.0

PROJECTS AND AUTHENTICITY

Authentic projects in programmes — ≥ 70%

Share of study programmes with at least one key course featuring an authentic project (multimedia creation, data analysis, fieldwork, prototyping).

CALCULATION Programmes with at least one project of this type ÷ total programmes. **DATA** Study plans, course plans **FREQUENCY** Annual **OWNER** Deans' offices

Collaboration and traceability criteria AI — ≥ 70%

Share of project assessment rubrics that cover collaboration, traceability of uses (including AI) and citability of productions.

CALCULATION Rubrics covering all three criteria ÷ project rubrics reviewed. **DATA** Audit of a sample of assessment rubrics **FREQUENCY** Annual **OWNER** Teaching support centre

Showcase events — ≥ 1 per faculty per year

Number of exhibitions, competitions or public presentations of student productions organised during the year.

CALCULATION Annual count of events, per faculty. **DATA** Institutional calendar, faculty activity reports **FREQUENCY** Annual **OWNER** Deans' offices

Consent for published productions DATA — 100%

Share of student productions published as open educational resources for which written consent and a licence are documented.

CALCULATION Productions published with documented consent ÷ productions published. **DATA** Institutional repository, consent forms **FREQUENCY** Annual **OWNER** Library or publishing service

TRACKING AND IMPROVEMENT

★ Self-declared digital confidence SURVEY — ≥ 4/5 (annual progression)

Average level of digital confidence reported by students, tracked from one year to the next.

CALCULATION Average of responses on a scale of 1 to 5; comparison with the previous year. **DATA** Annual student surveys **FREQUENCY** Annual **OWNER** Quality unit

Digital hygiene DATA — ≥ 85% pass phishing exercises

Share of students who pass the phishing simulation exercises.

CALCULATION Students who did not click or who reported the message ÷ students targeted. **DATA** Annual simulation campaigns **FREQUENCY** Annual **OWNER** IT department (security)

Progression dashboard DATA AI — Yes, every year

Existence of an aggregated dashboard that tracks the path from diagnostic to modules and then to success, as well as equity and AI-related incidents.

CALCULATION Yes or no; evidence: dashboard presented to the steering body, aggregated data without individual identification. **DATA** Institutional dashboard tool **FREQUENCY** Annual **OWNER** Quality unit

Perceived usefulness of the programme SURVEY — ≥ 70%

Share of students who have taken a module and consider it useful for their studies.

CALCULATION "Somewhat useful" or "very useful" responses ÷ respondents. **DATA** End-of-module questionnaire **FREQUENCY** Biannual **OWNER** Teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Participation equity gap ACCESSIBILITY

Decreasing from one year to the next

Difference in completion rates for the diagnostic and the modules between groups of students (grant holder status, part-time study, study accommodations).

CALCULATION Rate of the highest group minus rate of the lowest group, in percentage points. **DATA** Progression dashboard, aggregated data **FREQUENCY** Annual **OWNER** Quality unit

Student feedback acted upon

≥ 70%

Share of priority improvement requests arising from student feedback for which an action is documented and communicated.

CALCULATION Priority requests with a documented action ÷ priority requests identified. **DATA** Improvement register, minutes of bodies with student representation **FREQUENCY** Annual **OWNER** Quality unit

P5 Support and Helpdesk 42

ORGANISATION & USER JOURNEYS

Use of the single entry point

≥ 80%

Share of help requests that arrive through the single entry point rather than through parallel addresses or contacts.

CALCULATION Requests recorded through the single entry point ÷ total requests recorded, all channels combined. **DATA** Ticketing tool, "source channel" field **FREQUENCY** Quarterly **OWNER** Helpdesk manager

Published SLAs

Yes, reviewed every year

Existence of published time commitments for first response and resolution, by priority level.

CALCULATION Yes or no, with the public page that states the timelines and the date it was last updated. **DATA** Help portal **FREQUENCY** Annual **OWNER** Helpdesk manager

★ 1st response

Median ≤ 8h; ≥ 90% < 24h

Time between the submission of a request and the first response from a member of the support team.

CALCULATION Median first response time; tickets answered in under 24 h ÷ total tickets. **DATA** Ticketing tool **FREQUENCY** Monthly **OWNER** Helpdesk manager

Ticket resolution

Median ≤ 2d; ≥ 80% < 72h

Time between the submission of a request and its closure.

CALCULATION Median resolution time; tickets resolved in under 72 h ÷ total tickets. **DATA** Ticketing tool **FREQUENCY** Monthly **OWNER** Helpdesk manager

Help channels available ACCESSIBILITY

≥ 3 out of 4

Number of channels actually open (ticket, chat, phone, face-to-face) with announced hours and languages.

CALCULATION Count of active channels whose hours and languages are published, out of 4. **DATA** Help portal, support schedule **FREQUENCY** Annual **OWNER** Helpdesk manager

Help portal accessibility ACCESSIBILITY

≥ 90%, with no barrier to submitting a request

Share of the WCAG criteria adopted by the institution that are met by the help portal and the request form.

CALCULATION Compliant criteria ÷ audited criteria, on a sample of pages defined in advance. **DATA** Accessibility audit report **FREQUENCY** Annual **OWNER** Accessibility officer

Gap in delays between profiles

≤ 1 day gap

Difference in resolution time between requests from students and requests from educators.

CALCULATION Median resolution time of student tickets minus median resolution time of educator tickets. **DATA** Ticketing tool, "profile" field **FREQUENCY** Every semester **OWNER** Helpdesk manager

© Jean-François Van de Poël · CC BY-NC-SA 4.0

PROCESSES & SERVICE QUALITY

Correct routing at first triage — ≥ 85%

Share of requests assigned to the right team (technical or pedagogical) from the outset.

CALCULATION Tickets closed without reassignment ÷ total tickets closed. **DATA** Ticketing tool, assignment history **FREQUENCY** Quarterly **OWNER** Helpdesk manager

Re-open rate — ≤ 5%

Share of tickets re-opened after being declared resolved.

CALCULATION Tickets re-opened ÷ tickets closed over the period. **DATA** Ticketing tool **FREQUENCY** Monthly **OWNER** Helpdesk manager

Documented workflows — 3 out of 3

Number of request types (incident, service request, consulting request) whose handling is described in a document kept up to date.

CALCULATION Count of request types with a procedure dated less than 24 months ago, out of 3. **DATA** Internal support documentation **FREQUENCY** Annual **OWNER** Helpdesk manager

Incident playbooks exercised AI — ≥ 75%

Share of critical scenarios (LMS outage, security incident, AI incident, suspected plagiarism) with an incident playbook tested during the year.

CALCULATION Scenarios with a written playbook and an exercise or real use in the last 12 months ÷ critical scenarios identified. **DATA** Register of incident playbooks, exercise reports **FREQUENCY** Annual **OWNER** IT department, with the teaching support centre

Communication during a major incident — ≥ 90%

Share of major incidents for which the people concerned received initial information within 2 hours.

CALCULATION Major incidents with a message published in under 2 h ÷ major incidents in the period. **DATA** Incident log, status page history **FREQUENCY** Every semester **OWNER** IT department

Ticket data protection DATA — Yes, checked every year

Compliance of help request processing: entry in the record of processing activities and retention period applied.

CALCULATION Yes or no, with the register entry and evidence that expired tickets have been purged or anonymised. **DATA** Record of processing activities, ticketing tool settings **FREQUENCY** Annual **OWNER** Data protection officer

KNOWLEDGE BASE & RESOURCES

★ KB freshness (incl. AI sheets) AI — ≥ 90% < 12 months

Share of knowledge base articles, AI sheets included, created or revised less than 12 months ago.

CALCULATION Articles dated less than 12 months ago ÷ total articles published; same calculation done separately for AI sheets. **DATA** Knowledge base, date of last revision **FREQUENCY** Quarterly **OWNER** Teaching support centre

Searches with no result — ≤ 10%

Share of searches in the knowledge base that return no article.

CALCULATION Searches with no result ÷ total searches performed. **DATA** Knowledge base search statistics **FREQUENCY** Quarterly **OWNER** Teaching support centre

Coverage of portfolio tools — ≥ 90%

Share of institutional digital tools for which at least one up-to-date user guide exists.

CALCULATION Tools with a guide revised less than 12 months ago ÷ tools in the portfolio. **DATA** Knowledge base, tool catalogue **FREQUENCY** Annual **OWNER** Teaching support centre, with the IT department

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Complete AI sheets AI DATA 100%

Share of AI tools offered by the institution that have a sheet covering transparency, privacy, limitations and non-AI alternatives.

CALCULATION AI tools with a sheet covering the 4 sections ÷ AI tools in the portfolio. **DATA** Knowledge base, tool catalogue **FREQUENCY** Every semester **OWNER** Teaching support centre

Captioned video tutorials ACCESSIBILITY 100%

Share of video tutorials in the knowledge base that have proofread captions.

CALCULATION Videos with proofread captions ÷ total videos published. **DATA** Video platform, knowledge base inventory **FREQUENCY** Every semester **OWNER** Teaching support centre

UDL templates and scenarios available ACCESSIBILITY Rising from one year to the next

Number of universal design templates and ready-to-use pedagogical scenarios published in the knowledge base.

CALCULATION Count of templates and scenarios published, with the number of faculties or fields illustrated. **DATA** Knowledge base, "UDL" and "scenario" tags **FREQUENCY** Annual **OWNER** Teaching support centre

Content mapped to the competency frameworks ≥ 70%

Share of articles linked to a competency in the educator or student framework and to a tool in the portfolio.

CALCULATION Articles carrying both tags ÷ total articles published. **DATA** Knowledge base, article tagging **FREQUENCY** Annual **OWNER** Teaching support centre

CONSULTING, CONSULTATION & ESCALATION

★ Clinic appointment delay Median ≤ 7d; ≥ 80% < 10d

Time between the request for a clinic or consultation appointment and the appointment itself.

CALCULATION Median delay in days; appointments obtained in under 10 days ÷ total appointments. **DATA** Booking system, clinic agenda **FREQUENCY** Monthly **OWNER** Teaching support centre

Thematic coverage of clinics AI ACCESSIBILITY 5 out of 5

Number of themes (AI, LMS, assessment, accessibility, multimedia) offered in a clinic at least once per semester.

CALCULATION Count of themes covered by at least one clinic during the semester, out of 5. **DATA** Clinic and workshop calendar **FREQUENCY** Every semester **OWNER** Teaching support centre

Participation in AI clinics AI Rising from one year to the next

Share of educators who took part in at least one clinic or consultation devoted to AI during the year.

CALCULATION Distinct educators registered for an AI clinic ÷ educators in post, with a breakdown by faculty. **DATA** Clinic registrations, aggregated data **FREQUENCY** Annual **OWNER** Teaching support centre

Documented escalation paths DATA 4 out of 4

Number of escalation points (pedagogical consulting, libraries, IT, data protection) for which support has an escalation instruction and a designated contact.

CALCULATION Count of escalation points with a written instruction and an up-to-date contact, out of 4. **DATA** Internal support documentation **FREQUENCY** Annual **OWNER** Helpdesk manager

Case reviews ≥ 4 per year

Number of case reviews organised after a complex situation (activity design, AI fraud, proctoring), with a written report.

CALCULATION Count of reviews held during the year that have a written report. **DATA** Case review reports **FREQUENCY** Annual **OWNER** Teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

RESPONSIBLE AI & INTEGRITY

Currency of the AI FAQ AI

≤ 6 months; 4 sections out of 4

Age of the last revision of the AI FAQ, which covers permissions and prohibitions, citation, privacy and non-AI alternatives.

CALCULATION Number of months since the last revision; sections covered out of 4. **DATA** Help portal, FAQ version history **FREQUENCY** Every semester **OWNER** Teaching support centre

★ False-positive procedure (plagiarism / AI) AI

Published, with appeal route

Existence of a published procedure for handling a suspicion of plagiarism or AI use, with a right to explanation and an appeal route.

CALCULATION Yes or no, with the published text, its validation date and the description of the appeal route. **DATA** Study regulations, help portal, quality unit **FREQUENCY** Annual **OWNER** Senior management or rectorate, with the deans' offices

Dispute handling time AI

Median ≤ 30 days

Time between the submission of a dispute linked to a suspicion of AI use and the decision communicated to the student.

CALCULATION Median time in days, across disputes closed during the year. **DATA** Register of academic integrity cases **FREQUENCY** Annual **OWNER** Deans' offices

Unconfirmed suspicions of AI use AI DATA

Measured every year; falling

Share of suspicions of AI use dismissed or overturned after review or appeal.

CALCULATION Unconfirmed suspicions ÷ suspicions recorded during the year, anonymised data. **DATA** Register of academic integrity cases **FREQUENCY** Annual **OWNER** Deans' offices, with the quality unit

Warnings on AI tools AI

100%

Share of AI tools offered by the institution that come with a message on bias, possible errors and copyright.

CALCULATION AI tools displaying a warning ÷ AI tools in the portfolio. **DATA** Tool catalogue, interfaces of the tools concerned **FREQUENCY** Every semester **OWNER** IT department, with the teaching support centre

Framework for AI use at the service desk AI DATA

Yes, before any deployment

Existence of a written decision on the use of AI in support (chatbot, automatic triage), with a notice visible to the user and access to a person.

CALCULATION Yes or no, with the validated decision, the data protection opinion and the notice displayed. **DATA** Minutes of the steering body, record of processing activities **FREQUENCY** Annual **OWNER** Data protection officer, with the helpdesk manager

Awareness of AI rules AI SURVEY

≥ 70%

Share of students who say they know where to find the rules on AI use and how to dispute a suspicion.

CALCULATION "Somewhat agree" or "strongly agree" responses ÷ respondents. **DATA** Annual student survey **FREQUENCY** Annual **OWNER** Quality unit

COMMUNICATION & MONITORING

Status page reliability

100%; history ≥ 12 months

Share of recorded incidents that appear on the status page, with a history that can be consulted.

CALCULATION Incidents published on the status page ÷ incidents recorded in the log; depth of the history in months. **DATA** Status page, incident log **FREQUENCY** Every semester **OWNER** IT department

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Thematic campaigns planned and evaluated AI ACCESSIBILITY

4 out of 4

Number of campaigns scheduled in the communication plan (back to school, exams, responsible AI, accessibility) that were run and followed by a review.

CALCULATION Count of campaigns run with a written review, across the 4 themes. **DATA** Communication plan, campaign reviews **FREQUENCY** Annual **OWNER** Communications department, with the teaching support centre

Regularity of communication

≥ 6 per year

Number of communications about help services (newsletter, article, blog post) issued during the year.

CALCULATION Count of dated mailings and publications over 12 months. **DATA** Newsletter and website archives **FREQUENCY** Annual **OWNER** Teaching support centre

Awareness of help services SURVEY

≥ 75%

Share of educators and students who say they know where to turn when they need help.

CALCULATION Positive responses ÷ respondents, by profile. **DATA** Annual survey of educators and students **FREQUENCY** Annual **OWNER** Quality unit

Watch followed by action

≥ 4 per year

Number of watch reviews (tools, AI, security, accessibility) that led to an update of the knowledge base or to a communication.

CALCULATION Count of watch reviews held during the year with at least one recorded action. **DATA** Watch notes, knowledge base revision history **FREQUENCY** Annual **OWNER** Teaching support centre

MEASUREMENT & CONTINUOUS IMPROVEMENT

★ Overall support NPS SURVEY

NPS > 0; CSAT ≥ 4/5

Recommendation and satisfaction expressed by users after a help request.

CALCULATION NPS: share of promoters minus share of detractors; CSAT: average score out of 5. **DATA** Post-ticket satisfaction surveys, quarterly summary **FREQUENCY** Quarterly **OWNER** Helpdesk manager

Dashboard completeness

5 out of 5, circulated every quarter

Number of families of measures tracked (volumes, delays, re-openings, recurring themes, satisfaction) in a shared dashboard.

CALCULATION Count of families present in the dashboard circulated, out of 5. **DATA** Institutional dashboard tool **FREQUENCY** Quarterly **OWNER** Helpdesk manager

Recurring themes addressed

≥ 50%

Share of the ten most frequent reasons for requests that led to a structural improvement (guide, training, tool or process change).

CALCULATION Reasons with an action completed during the year ÷ 10. **DATA** Support dashboard, list of improvements **FREQUENCY** Annual **OWNER** Digital education steering body

Lessons learned published DATA

≥ 2 per year

Number of anonymised summaries published following incidents or user feedback.

CALCULATION Count of summaries published over 12 months, after the anonymisation has been checked. **DATA** Help portal, lessons learned section **FREQUENCY** Annual **OWNER** Helpdesk manager

Progress on prioritised improvements

≥ 60%

Share of improvements listed as priorities at the start of the year and completed by the end of the year.

CALCULATION Priority improvements closed ÷ priority improvements listed. **DATA** Prioritised improvement backlog for support **FREQUENCY** Annual **OWNER** Digital education steering body

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P6 Projects and Innovation 42

INTERNAL CALLS AND GOVERNANCE

Calls aligned with priorities 100%

Share of internal project calls whose text specifies the objectives, target audiences, scope and budget, in line with the priorities of the strategy.

CALCULATION Calls containing all four elements and an explicit reference to the strategy ÷ calls published. **DATA** Project call texts, digital strategy **FREQUENCY** At each call **OWNER** Senior management or rectorate

Cross-cutting criteria in calls AI ACCESSIBILITY DATA 5 out of 5

Presence, in the selection grid, of criteria on pedagogy, accessibility, data protection, responsible AI and sustainability.

CALCULATION Number of criteria families present in the published grid, out of 5. **DATA** Evaluation grid attached to the call **FREQUENCY** At each call **OWNER** Innovation projects committee

Calendar and jury published Yes; ≥ 5 profiles out of 7, including students

Publication, with each call, of the calendar and the composition of the jury, and diversity of the profiles sitting on it (educators, students, pedagogical advice, IT, data protection, accessibility, AI).

CALCULATION Yes or no for publication; number of profiles represented on the jury, out of 7. **DATA** Call page, jury minutes **FREQUENCY** At each call **OWNER** Innovation projects committee

Projects supported ≥ 80%

Share of selected projects that received planned and funded support (design, evaluation, data, accessibility or AI).

CALCULATION Projects that received at least one documented support session ÷ projects selected. **DATA** Project register, support files **FREQUENCY** Annual **OWNER** Teaching support centre

Distribution of projects across faculties ≥ 80%

Share of faculties that submitted at least one project over the last three years.

CALCULATION Faculties with at least one submission over three years ÷ total number of faculties. **DATA** Project register **FREQUENCY** Annual **OWNER** Deans' offices, with the projects committee

Project register up to date 100%

Share of active projects whose milestones and status have been updated recently in the register.

CALCULATION Active projects updated within the last 6 months ÷ active projects. **DATA** Project register **FREQUENCY** Biannual **OWNER** Lead for pedagogical innovation projects

Project team satisfaction SURVEY ≥ 75%

Share of project leads satisfied with the clarity of the rules and the support received.

CALCULATION "Fairly satisfied" or "very satisfied" responses ÷ respondents. **DATA** End-of-project questionnaire **FREQUENCY** Annual **OWNER** Teaching support centre

SANDBOX AND EXPERIMENTATION

★ Pilot contracts signed 100%

Share of pilots covered by a sandbox contract specifying the duration, metrics, risks and exit criteria.

CALCULATION Pilots with a contract signed before the start ÷ pilots launched. **DATA** Project register, sandbox contracts **FREQUENCY** Biannual **OWNER** Lead for pedagogical innovation projects

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Prior technical validation ACCESSIBILITY — 100%

Share of pilots whose interoperability, security, single sign-on and accessibility were checked before the start.

CALCULATION Pilots with a complete technical validation sheet before the start ÷ pilots launched. **DATA** IT department validation sheets **FREQUENCY** Biannual **OWNER** IT department

Sunset plan provided from the start — 100%

Share of pilots whose contract contains a sunset plan (migration, communication, alternatives).

CALCULATION Contracts with a completed sunset section ÷ contracts signed. **DATA** Sandbox contracts **FREQUENCY** Biannual **OWNER** Lead for pedagogical innovation projects

Consents documented DATA — 100%

Share of pilots processing personal data for which the information and consent of participants are documented.

CALCULATION Pilots with archived consents ÷ pilots processing personal data. **DATA** Pilot files, record of processing activities **FREQUENCY** Biannual **OWNER** Data protection officer

Pilot duration respected — ≥ 80%

Share of pilots closed or submitted for decision by the deadline set in their contract.

CALCULATION Pilots closed or submitted for decision by the deadline ÷ pilots that reached their deadline. **DATA** Project register **FREQUENCY** Annual **OWNER** Innovation projects committee

Incidents resolved — ≥ 90% within 30 days

Share of incidents reported during pilots (technical, data, use) resolved within a short time.

CALCULATION Incidents closed in less than 30 days ÷ incidents reported. **DATA** Incident register **FREQUENCY** Monthly **OWNER** IT department

IMPACT EVALUATION

★ Evaluation plans complete AI — 100% of projects

Share of projects with an evaluation plan that specifies the indicators, methods, samples and ethical framework.

CALCULATION Projects with a complete evaluation plan ÷ projects in progress. **DATA** Project files **FREQUENCY** Quarterly **OWNER** Lead for pedagogical innovation projects

Coverage of impact dimensions AI ACCESSIBILITY — ≥ 80%

Share of evaluation plans that cover learning and engagement, equity and accessibility, adoption, costs and, where applicable, AI-related risks.

CALCULATION Plans covering all applicable dimensions ÷ evaluation plans. **DATA** Evaluation plans, review grid **FREQUENCY** Annual **OWNER** Teaching support centre

Impact reports submitted on time — ≥ 90%

Share of projects that submitted their impact report on the planned date.

CALCULATION Reports submitted on time ÷ reports expected in the period. **DATA** Project register **FREQUENCY** Biannual **OWNER** Lead for pedagogical innovation projects

Evidence collected DATA — ≥ 80%

Share of impact reports based on at least two data sources (survey, aggregated and anonymised usage traces, learning outcomes).

CALCULATION Reports drawing on at least two sources ÷ reports submitted. **DATA** Impact reports **FREQUENCY** Annual **OWNER** Quality unit

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Analysis of equity gaps ACCESSIBILITY ≥ 60%

Share of impact reports that present results by student group (for example special needs, first year, part time).

CALCULATION Reports with results broken down by group ÷ reports submitted. **DATA** Impact reports **FREQUENCY** Annual **OWNER** Quality unit

Workload measured SURVEY ≥ 70%

Share of projects that measure the effect on the workload of educators and students.

CALCULATION Projects measuring the workload of both groups ÷ projects evaluated. **DATA** End-of-pilot surveys **FREQUENCY** Annual **OWNER** Teaching support centre

DECISION: SCALING OR SUNSET

Decision criteria published Yes, revised at least every 2 years

Existence of public criteria for deciding on scaling or sunset (thresholds, required evidence, support and budget constraints).

CALCULATION Yes or no, with the published document and its validation date. **DATA** Intranet, committee minutes **FREQUENCY** Annual **OWNER** Senior management or rectorate

★ Go/No-go within 30d post-report AI ≥ 90%

Share of projects for which the decision to continue, scale or stop is taken within 30 days of the impact report.

CALCULATION Decisions taken in 30 days or less ÷ impact reports submitted. **DATA** Committee minutes, project register **FREQUENCY** Quarterly **OWNER** Innovation projects committee

Decisions argued and communicated 100%

Share of decisions accompanied by an argued file (benefits, limits, impacts, timeline) and communicated to the teams concerned.

CALCULATION Decisions with a file and a dated communication ÷ decisions taken. **DATA** Decision files, internal communications **FREQUENCY** Biannual **OWNER** Innovation projects committee

Scaling budgeted 100%

Share of scaling decisions backed by a funded scale-up plan (support, training, accessibility, security).

CALCULATION Scaling decisions with a validated plan and budget ÷ scaling decisions taken. **DATA** Decision files, budget **FREQUENCY** Annual **OWNER** Senior management or rectorate

Sunset managed AI DATA 100% withdrawals with migration & communication

Share of withdrawals of tools or services carried out with migration of content and data, communication and alternatives.

CALCULATION Withdrawals with documented migration and communication ÷ withdrawals carried out. **DATA** IT department withdrawal files, communications **FREQUENCY** Annual **OWNER** IT department, with the communications office

Pilots without a decision 0

Number of pilots still active more than 6 months after the end of their contract, with no recorded decision.

CALCULATION Count of overdue pilots without a decision at the date of the review. **DATA** Project register **FREQUENCY** Biannual **OWNER** Innovation projects committee

© Jean-François Van de Poël · CC BY-NC-SA 4.0

CAPITALISATION AND DISSEMINATION

★ Reusable deliverables produced

≥ 2 per project (guides, OERs, sheets)

Average number of reusable deliverables per closed project (guides, scenarios, open educational resources, sheets).

CALCULATION Deliverables deposited ÷ projects closed in the period. **DATA** Institutional resource repository **FREQUENCY** Quarterly **OWNER** Lead for pedagogical innovation projects

Deliverables under an open licence

≥ 60%

Share of deliverables deposited under an open licence that permits reuse.

CALCULATION Deliverables under an open licence ÷ deliverables deposited. **DATA** Institutional resource repository **FREQUENCY** Annual **OWNER** Library or open resources service

Accessibility of deliverables ACCESSIBILITY

≥ 80%

Share of disseminated deliverables that meet the accessibility criteria adopted by the institution.

CALCULATION Compliant deliverables ÷ deliverables checked in a sample. **DATA** Accessibility check on the repository **FREQUENCY** Annual **OWNER** Accessibility officer

Dissemination events

≥ 2 per year, all archived

Number of project showcases, webinars or synthesis notes organised and archived during the year.

CALCULATION Count of events and notes for which a record is archived. **DATA** Institutional calendar, teaching support centre archives **FREQUENCY** Annual **OWNER** Teaching support centre

Publications and presentations

≥ 30%

Share of closed projects that led to a publication, a conference presentation or an article on an institutional blog.

CALCULATION Closed projects with at least one publication or presentation ÷ closed projects. **DATA** Project register, publications archive **FREQUENCY** Annual **OWNER** Teaching support centre

Reuse of deliverables

Rising from one year to the next

Actual use of deliverables by teams other than those that produced them.

CALCULATION Views or downloads of deliverables on the repository, and number of reported reuses. **DATA** Repository statistics, survey of educators **FREQUENCY** Annual **OWNER** Teaching support centre

EXTERNAL CALLS AND NETWORKS

External call watch

Yes, at least 2 circulations per year

Existence of an organised watch of national and international calls, with a calendar circulated to teams.

CALCULATION Yes or no, with the calendar circulated and the number of circulations during the year. **DATA** Newsletter, intranet **FREQUENCY** Annual **OWNER** Research support office or bid-building unit

Bids supported

≥ 80%

Share of external bids prepared with the support of the bid-building unit (partnerships, budget, data, ethics and AI, intellectual property).

CALCULATION Bids supported ÷ bids submitted. **DATA** Bid register **FREQUENCY** Annual **OWNER** Research support office or bid-building unit

Alignment of external bids

100%

Share of external bids linked to a priority of the strategy before submission.

CALCULATION Bids with documented alignment validation ÷ bids submitted. **DATA** Bid register, senior management opinion **FREQUENCY** Annual **OWNER** Senior management or rectorate

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Bid success rate

Stable or rising

Share of external bids submitted that obtain funding.

CALCULATION Bids funded ÷ bids submitted, over a rolling three-year period. **DATA** Bid register **FREQUENCY** Annual **OWNER** Research support office or bid-building unit

Internal returns documented

≥ 80%

Share of closed external projects whose returns for the institution are documented (transfers, guides, training).

CALCULATION Closed external projects with a note on returns ÷ closed external projects. **DATA** Final reports, project register **FREQUENCY** Annual **OWNER** Lead for pedagogical innovation projects

Active participation in networks

≥ 2 per year

Number of inter-institutional networks to which the institution made a contribution during the year (presentation, working group, shared resource).

CALCULATION Count of networks with at least one documented contribution. **DATA** Activity report, participation register **FREQUENCY** Annual **OWNER** Teaching support centre

AI: CONTROLLED EXPERIMENTATION

★ DPIAs for AI cases AI DATA

100% of at-risk projects

Share of at-risk AI projects for which a data protection impact assessment is carried out before the pilot.

CALCULATION At-risk AI projects with a DPIA validated before the start ÷ at-risk AI projects. **DATA** DPIA register, projects committee **FREQUENCY** Biannual **OWNER** Data protection officer

AI pilots in the sandbox AI

≥ 90%

Share of AI experiments known to the institution that go through the sandbox, with defined criteria and duration.

CALCULATION AI experiments under a sandbox contract ÷ AI experiments identified. **DATA** Project register, inventory of AI uses **FREQUENCY** Biannual **OWNER** AI lead for teaching

Non-AI alternatives planned AI ACCESSIBILITY

100%

Share of AI pilots that plan, from the start, a non-AI alternative for students who cannot or do not wish to use the tool.

CALCULATION AI pilots with an alternative described in the contract ÷ AI pilots. **DATA** Sandbox contracts **FREQUENCY** Biannual **OWNER** AI lead for teaching

Biases and unintended effects documented AI

≥ 80%

Share of impact reports on AI projects that address equity, observed biases and unintended effects.

CALCULATION AI reports with a completed dedicated section ÷ AI reports submitted. **DATA** Impact reports on AI projects **FREQUENCY** Annual **OWNER** AI lead for teaching

AI pilot cycle duration AI

≤ 12 months

Time elapsed between the start of an AI pilot and the decision that concludes it.

CALCULATION Median duration, in months, between the start date and the decision date. **DATA** Project register **FREQUENCY** Annual **OWNER** Innovation projects committee

© Jean-François Van de Poël · CC BY-NC-SA 4.0

P7 Valorisation and Recognition

41

COMMUNICATION & VISIBILITY

★ Editorial rhythm

≥ 4 publications/month (articles, videos, testimonials)

Number of monthly publications that document teaching practices (articles, videos, testimonials).

CALCULATION Count of publications put online during the month, across all channels. **DATA** Statistics from the website, blog and newsletter **FREQUENCY** Monthly **OWNER** Teaching support centre, with the communications office

Documented editorial programme

Yes, every year

Existence of a written editorial programme that sets the calendar, formats, channels and people responsible.

CALCULATION Yes or no; expected evidence: the programme validated for the current year. **DATA** Editorial planning document **FREQUENCY** Annual **OWNER** Teaching support centre

Accessibility of disseminated content ACCESSIBILITY

≥ 90%

Share of published content that meets the accessibility criteria adopted by the institution (WCAG).

CALCULATION Compliant content ÷ content in the audited sample. **DATA** Accessibility audit of a sample of publications **FREQUENCY** Biannual **OWNER** Accessibility officer

Video captioning ACCESSIBILITY

100%

Share of showcase videos published with proofread captions.

CALCULATION Captioned videos ÷ videos published in the period. **DATA** Institutional video platform **FREQUENCY** Biannual **OWNER** Communications office

Complete testimonials

≥ 80%

Share of testimonials that describe context, objectives, results and limits, failures included.

CALCULATION Testimonials covering the four headings ÷ testimonials published. **DATA** Review of published testimonials against the template **FREQUENCY** Annual **OWNER** Teaching support centre

Faculties represented

100%

Share of faculties with at least one practice made visible during the year.

CALCULATION Faculties with at least one publication ÷ total number of faculties. **DATA** Annual inventory of publications **FREQUENCY** Annual **OWNER** Teaching support centre, with the deans' offices

GOOD PRACTICE REPOSITORY

Currency of the repository

≤ 12 months

Age of the latest published revision of the good practice repository.

CALCULATION Number of months elapsed since the last validated revision. **DATA** Version history of the repository **FREQUENCY** Annual **OWNER** Teaching support centre

Thematic coverage of the repository AI ACCESSIBILITY

5 out of 5

Presence in the repository of the five expected areas: UDL, assessment, blended learning, engagement, responsible AI.

CALCULATION Number of areas covered by at least one practice sheet, out of 5. **DATA** Text of the repository **FREQUENCY** At each revision **OWNER** Teaching support centre

Mapping to frameworks

≥ 80%

Share of practice sheets in the repository explicitly mapped to a recognised framework (DigCompEdu, SAMR, TPACK, CoI).

CALCULATION Sheets with a mapping ÷ total number of sheets. **DATA** Text of the repository **FREQUENCY** Annual **OWNER** Teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Disciplinary examples — ≥ 80%

Share of faculties for which the repository offers at least one discipline-specific example.

CALCULATION Faculties illustrated by at least one example ÷ total number of faculties. **DATA** Text of the repository, inventory of examples **FREQUENCY** Annual **OWNER** Teaching support centre, with the deans' offices

Revision committee AI ACCESSIBILITY — Yes, every year

An annual revision is carried out by a committee that brings together expertise in accessibility, ethics and AI.

CALCULATION Yes or no; expected evidence: composition of the committee and minutes of the revision meeting. **DATA** Committee minutes **FREQUENCY** Annual **OWNER** Teaching steering body

RECOGNITION & AWARDS

Formalised recognition mechanism — Yes

Existence of an award or recognition mechanism with published regulations (categories, criteria, jury).

CALCULATION Yes or no; expected evidence: published regulations and composition of the jury. **DATA** Award regulations, institutional website **FREQUENCY** Annual **OWNER** Senior management or rectorate

Multi-stakeholder jury — ≥ 3 out of 4

Number of stakeholder categories represented on the jury (educators, students, support services, senior management).

CALCULATION Count of categories represented, out of 4. **DATA** Composition of the jury **FREQUENCY** At each edition **OWNER** Senior management or rectorate

Cross-cutting award criteria AI ACCESSIBILITY — 5 out of 5

Presence in the jury's grid of criteria on accessibility or UDL, equity, AI transparency, impact evidence and transferability.

CALCULATION Number of criteria present in the grid, out of 5. **DATA** Jury assessment grid **FREQUENCY** At each edition **OWNER** Award jury

Feedback to applicants — 100%

Share of applicants, whether award winners or not, who receive written, reasoned feedback from the jury.

CALCULATION Written feedback sent ÷ applications received. **DATA** Jury follow-up file **FREQUENCY** At each edition **OWNER** Award jury

★ Recognition recorded in the career file — 100%

Share of recognitions awarded that leave a trace in the career file (letter, mention, release time per local policies).

CALCULATION Recognitions recorded in the file ÷ recognitions awarded. **DATA** Human resources management system **FREQUENCY** Annual **OWNER** Human resources, with the deans' offices

Sense of recognition SURVEY — ≥ 60%

Share of educators who consider that their pedagogical engagement is recognised by the institution.

CALCULATION "Somewhat agree" or "strongly agree" responses ÷ respondents. **DATA** Annual survey of educators **FREQUENCY** Annual **OWNER** Quality unit

OERS (OPEN EDUCATIONAL RESOURCES)

★ OERs deposited — +20%/year; reuse rising

Change in the number of open educational resources deposited and in their reuse.

CALCULATION (Deposits in the year minus deposits in the previous year) ÷ deposits in the previous year; downloads and declared reuse tracked in parallel. **DATA** OER repository statistics **FREQUENCY** Quarterly **OWNER** Library or unit in charge of the repository

© Jean-François Van de Poël · CC BY-NC-SA 4.0

OER licences & metadata

100% complete

Share of deposited resources that carry an explicit Creative Commons licence and complete metadata.

CALCULATION Complete resources ÷ resources deposited. **DATA** OER repository audit **FREQUENCY** Biannual **OWNER** Library or unit in charge of the repository

AI traceability on OERs AI

100% with declaration (if relevant)

Share of resources involving an AI contribution that carry a declaration of that contribution.

CALCULATION Resources with a declaration ÷ resources for which a declaration is relevant. **DATA** OER repository audit **FREQUENCY** Biannual **OWNER** Library or unit in charge of the repository, with the teaching support centre

Review before publication

100%

Share of resources published after a documented review (content, rights, accessibility).

CALCULATION Reviewed resources ÷ resources published in the period. **DATA** Log of the repository's validation workflow **FREQUENCY** Biannual **OWNER** Teaching support centre

Accessibility of OERs ACCESSIBILITY

≥ 90%

Share of deposited resources that pass the accessibility check provided for in the validation workflow.

CALCULATION Compliant resources ÷ resources in the audited sample. **DATA** Accessibility audit of the OER repository **FREQUENCY** Annual **OWNER** Accessibility officer

Currency of OERs

≥ 80%

Share of resources in the repository reviewed or updated within the last three years.

CALCULATION Resources reviewed within the last 36 months ÷ resources in the repository. **DATA** OER repository metadata (date of last revision) **FREQUENCY** Annual **OWNER** Library or unit in charge of the repository

SOTL (TEACHING SCHOLARSHIP)

Up-to-date SoTL guide AI DATA

Yes, revised within ≤ 24 months

Existence of a published SoTL guide that covers methods, ethics, data protection and the use of AI.

CALCULATION Yes or no; expected evidence: published guide and date of the last revision. **DATA** Teaching support centre website **FREQUENCY** Annual **OWNER** Teaching support centre

SoTL projects supported

≥ 50%

Share of supported SoTL projects that receive micro-funding or release time.

CALCULATION Projects with funding or release time ÷ projects supported during the year. **DATA** SoTL project register, budget monitoring **FREQUENCY** Annual **OWNER** Senior management or rectorate, with the deans' offices

★ GDPR/ethics compliance of SoTL studies DATA

100% of validated dossiers

Share of SoTL studies whose ethics and data protection dossier was validated before data collection.

CALCULATION Validated dossiers ÷ studies launched. **DATA** Register of the ethics committee and the data protection officer **FREQUENCY** Annual **OWNER** Ethics committee, with the data protection officer

Data management plan DATA

100%

Share of SoTL studies that have a written plan for the collection, retention and anonymisation of data.

CALCULATION Studies with a plan ÷ studies launched. **DATA** SoTL project register **FREQUENCY** Annual **OWNER** Data protection officer

AI declaration in SoTL work AI

100%

Share of disseminated SoTL work that declares AI uses in conducting the study or in writing.

CALCULATION Work with a declaration ÷ work disseminated. **DATA** Review of disseminated SoTL work **FREQUENCY** Annual **OWNER** Teaching support centre

© Jean-François Van de Poël · CC BY-NC-SA 4.0

SoTL results deposited ≥ 80%

Share of completed SoTL projects whose results (report, preprint, article, poster) are deposited and disseminated within twelve months.

CALCULATION Projects with a deposit within 12 months ÷ completed projects. **DATA** Institutional archive, OER repository **FREQUENCY** Annual **OWNER** Teaching support centre, with the library

SHOWCASES & COMMUNITIES

Pedagogical days ≥ 1 per year

Number of institutional pedagogical days organised during the year (posters, demonstrations, workshops).

CALCULATION Count of days held. **DATA** Programme of institutional events **FREQUENCY** Annual **OWNER** Teaching support centre

Captioned recordings ACCESSIBILITY 100%

Share of sessions recorded during pedagogical days that are put online with captions.

CALCULATION Captioned recordings online ÷ sessions recorded. **DATA** Institutional video platform **FREQUENCY** At each event **OWNER** Teaching support centre

Publishable cases from communities ≥ 2 per community per year

Number of cases written using the common template and submitted for publication by each community of practice.

CALCULATION Cases submitted during the year ÷ active communities. **DATA** Register of submitted cases **FREQUENCY** Annual **OWNER** Community of practice facilitators

Feedback integrated ≥ 70%

Share of feedback collected at showcases (questions, evaluations) that leads to a documented decision on the repository or the guides.

CALCULATION Feedback processed with a decision ÷ feedback collected. **DATA** Change log of the repository and guides **FREQUENCY** Annual **OWNER** Teaching support centre

Intention to replicate SURVEY ≥ 50%

Share of participants who say they intend to adopt or adapt a practice presented.

CALCULATION Positive responses ÷ respondents to the end-of-event questionnaire. **DATA** End-of-event questionnaire **FREQUENCY** At each event **OWNER** Teaching support centre

ETHICS, INTEGRITY & AI

★ AI declaration on valorised productions AI 100% (when relevant)

Share of valorised productions (testimonials, guides, resources, award-winning dossiers) that carry an AI transparency note.

CALCULATION Productions with a note ÷ productions for which a note is relevant. **DATA** Audit of productions against the transparency charter **FREQUENCY** Biannual **OWNER** Teaching support centre

AI transparency charter AI Yes

Existence of a validated charter that sets the AI transparency rules for OERs, SoTL work and valorised productions.

CALCULATION Yes or no; expected evidence: charter validated by the competent body and published. **DATA** Minutes of the body, institutional website **FREQUENCY** Annual **OWNER** Senior management or rectorate

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Use of the declaration template AI

≥ 80%

Share of AI usage declarations written using the institutional template.

CALCULATION Declarations that follow the template ÷ declarations found in the sample. **DATA** Audit of valorised productions **FREQUENCY** Annual **OWNER** Teaching support centre

Completeness of transparency notes AI

≥ 80%

Share of AI transparency notes that specify the tools, their role or the prompts, the limits and the checks performed.

CALCULATION Notes covering the four elements ÷ notes in the sample. **DATA** Audit of valorised productions **FREQUENCY** Biannual **OWNER** Teaching support centre

Documented rights and consents DATA

100%

Share of valorised productions for which rights (texts, images, voices) and the consents of the people concerned are documented.

CALCULATION Productions with supporting documents ÷ productions in the sample. **DATA** Publication files, register of permissions **FREQUENCY** Biannual **OWNER** Legal office, with the data protection officer

Processing time for integrity cases AI

≤ 60 days

Median time between the report of an AI-related integrity case and the decision, appeals included.

CALCULATION Median number of days between report and final decision. **DATA** Integrity case register **FREQUENCY** Annual **OWNER** Body in charge of academic integrity

Reports closed without further action AI

Falling from one year to the next

Share of AI-related integrity reports that are closed without further action after examination, a sign of false positives.

CALCULATION Reports closed without further action ÷ reports examined. **DATA** Integrity case register **FREQUENCY** Annual **OWNER** Body in charge of academic integrity

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Annex D · Survey templates

Some indicators can only be collected by asking people. This annex proposes 34 ready-to-adapt questions, grouped into 11 questionnaires according to the audience and the moment of the survey. Each question names the indicator it feeds.

These templates are examples. Reword them for your context, test the questions with a few people and check the collection arrangements with the person in charge of data protection. Then keep the same wording from year to year so that results can be compared.

Annual survey of educators

AUDIENCE All educators **TIMING** Once a year, at the same time of year

1. I know the main priorities of my institution's educational digital strategy.

   Strongly disagree · Somewhat disagree · Neither agree nor disagree · Somewhat agree · Strongly agree

   Feeds : P1 · Awareness of the strategy

2. I understand what my institution's policy permits and prohibits with regard to AI in teaching.

   Strongly disagree · Somewhat disagree · Neither agree nor disagree · Somewhat agree · Strongly agree

   Feeds : P1 · Understanding of the AI policy

3. I know where to find the catalogue of digital tools supported by my institution.

   Strongly disagree · Somewhat disagree · Neither agree nor disagree · Somewhat agree · Strongly agree

   Feeds : P2 · Awareness of the catalogue

4. I understand the competency framework offered to educators and I know where I stand on it.

   Strongly disagree · Somewhat disagree · Neither agree nor disagree · Somewhat agree · Strongly agree

   Feeds : P3 · Framework comprehension

5. I feel able to spot bias and factual errors in the outputs of a generative AI tool in my discipline.

   Strongly disagree · Somewhat disagree · Neither agree nor disagree · Somewhat agree · Strongly agree

   Feeds : P3 · Critical reading of AI outputs

6. You would like to use a consumer AI tool to help you comment on students' work. What may you enter into it?

   The work as it is, with names

   The work, after removing anything that could identify individuals, if the institution's rules allow it

   Any content, as long as the tool is free · I don't know

   The expected answer is the second one; adapt the options to your institution's rules.

   Feeds : P3 · Knowledge of data rules for AI

7. I know who to contact for help with digital teaching tools.

   Strongly disagree · Somewhat disagree · Neither agree nor disagree · Somewhat agree · Strongly agree

   Feeds : P5 · Awareness of help services

© Jean-François Van de Poël · CC BY-NC-SA 4.0

8 My commitment to teaching is recognised by my institution.

Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree

Feeds : P7 · Sense of recognition

Annual student survey

AUDIENCE All students, or a representative sample **TIMING** Once a year, at the same time of year

1 I understand what my institution's policy permits and prohibits with regard to AI in my studies.

Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree

Feeds : P1 · Understanding of the AI policy

2 I know who to contact for help with the digital tools used in my studies.

Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree

Feeds : P5 · Awareness of help services

3 Do you have a personal computer that is suitable for your studies?

Yes | Yes, but shared with other people | No

Feeds : P4 · Mapping of access inequalities

4 Do you have a reliable internet connection where you study?

Always | Most of the time | Rarely | Never

Feeds : P4 · Mapping of access inequalities

5 In my courses, I know what is permitted and what is prohibited with regard to AI.

Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree

Feeds : P4 · AI rules known to students

6 How confident do you feel with the digital tools you need for your studies?

Not at all confident | Not very confident | Moderately confident | Fairly confident | Completely confident

Feeds : P4 · Self-declared digital confidence

7 I know where to find the rules on AI use and who to ask if I have questions about them.

Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree

Feeds : P5 · Awareness of AI rules

Development needs assessment

AUDIENCE Educators **TIMING** Once a year, before planning the training offer

1 In which areas would you like to develop your skills over the coming year? You may select more than one answer.

Course design | Assessment of learning | AI in teaching | Accessibility and universal design | Digital tools | Other, please specify

Feeds : P3 · Needs assessment

2 Which formats suit you best? You may select more than one answer.

In-person workshop | Online workshop | Self-study resources | One-to-one consultation | Peer exchange

Feeds : P3 · Needs assessment

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Survey of course leads

AUDIENCE Course leads within the chosen scope **TIMING** Once a year

1. In the past two years, have you revised at least one assessment in this course to take generative AI into account?

   Yes | In progress | No

   Feeds : P3 · Assessments redesigned for the AI era

2. If so, what was the main change?

   Assessment of the working process | Addition of an oral examination or defence | A more authentic or more contextualised task | Two tracks, with and without AI | Other, please specify

   Feeds : P3 · Assessments redesigned for the AI era

End-of-training questionnaire

AUDIENCE Training participants **TIMING** At the end of each training

1. Overall, how satisfied are you with this training?

   Very dissatisfied | Fairly dissatisfied | Neither satisfied nor dissatisfied | Fairly satisfied | Very satisfied

   Feeds : P3 · Immediate satisfaction

Delayed follow-up after training

AUDIENCE Training participants **TIMING** Six to eight weeks after the training

1. Since the training, have you applied in a course at least one strategy that was covered in it?

   Yes | Not yet, but I plan to | No

   Feeds : P3 · Transfer to classroom

2. If so, which one?

   Free-text answer

   Feeds : P3 · Transfer to classroom

3. Since the module, have you modified an activity or an assessment in relation to AI?

   Yes | Not yet, but I plan to | No

   Feeds : P3 · Transfer of AI uses to class

End-of-module questionnaire

AUDIENCE Students who have taken a digital skills module **TIMING** At the end of each module

1. How useful was this module for your studies?

   Not at all useful | Not very useful | Somewhat useful | Very useful

   Feeds : P4 · Perceived usefulness of the programme

Questionnaire after a help request

AUDIENCE Anyone who has requested a consultation or contacted the helpdesk **TIMING** When the request is closed

1. Did this consultation help you move forward with your teaching project?

   Rating from 1 (not at all) to 5 (completely)

   Feeds : P3 · Satisfaction with support

© Jean-François Van de Poël · CC BY-NC-SA 4.0

2. How satisfied are you with the response you received to your request?

Very dissatisfied | Fairly dissatisfied | Neither satisfied nor dissatisfied | Fairly satisfied | Very satisfied

Feeds : P4 · Satisfaction with the helpdesk

3. How likely are you to recommend this help service to a fellow student or colleague?

Rating from 0 (not at all likely) to 10 (very likely)

Feeds : P5 · Overall support NPS

4. How satisfied are you with the way your request was handled?

Very dissatisfied | Fairly dissatisfied | Neither satisfied nor dissatisfied | Fairly satisfied | Very satisfied

Feeds : P5 · Overall support NPS

End-of-project or end-of-pilot questionnaire

AUDIENCE Project teams, and the students concerned for the workload question **TIMING** At the end of the project or pilot

1. How satisfied are you with the support you received during the project?

Very dissatisfied | Fairly dissatisfied | Neither satisfied nor dissatisfied | Fairly satisfied | Very satisfied

Feeds : P6 · Project team satisfaction

2. Compared with a typical course, the workload associated with this pilot was:

Much lower | Lower | About the same | Higher | Much higher

To be asked of both educators and students.

Feeds : P6 · Workload measured

End-of-event questionnaire

AUDIENCE Participants in a practice-sharing day or presentation **TIMING** At the end of the event

1. Do you expect to reuse in your teaching a practice presented today?

Yes | Maybe | No

Feeds : P7 · Intention to replicate

Student evaluation of teaching

AUDIENCE Students on the course **TIMING** At the end of the course, within the existing evaluation process

1. The instructions and expectations for the course were clear.

Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree

Feeds : P3 · Effects perceived by students

2. I received useful feedback on my work.

Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree

Feeds : P3 · Effects perceived by students

3. The course took the diversity of students' circumstances into account.

Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree

Feeds : P3 · Effects perceived by students

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Bibliography

This bibliography brings together the sources cited in the book, listed in alphabetical order and in APA format. Each reference was checked in September 2026.

1EdTech (IMS Global Learning Consortium). (2019). *Learning Tools Interoperability (LTI) Advantage*. https://www.1edtech.org/standards/lti

1EdTech (IMS Global Learning Consortium). (n.d.). *Open Badges*. https://www.1edtech.org/standards/open-badges

Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2009). *Trends in global higher education: Tracking an academic revolution*. UNESCO.

Association of College and Research Libraries (ACRL). (2016). *Framework for information literacy for higher education*. American Library Association.

Bates, A. W. (2019). *Teaching in a digital age* (2nd ed.). Tony Bates Associates.

Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal of Educational Technology, 39*(5), 775-786.

Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Open University Press.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher, 33*(8), 3-15.

Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate*. Carnegie Foundation for the Advancement of Teaching.

Bozkurt, A., Xiao, J., Lambert, S., Pazurek, A., Crompton, H., Koseoglu, S., et al. (2023). Speculative futures on ChatGPT and generative artificial intelligence (AI): A collective reflection from the educational landscape. *Asian Journal of Distance Education, 18*(1), 53-130.

Brown, C., & Czerniewicz, L. (2010). Debunking the 'digital native': Beyond digital apartheid, towards digital democracy. *Journal of Computer Assisted Learning, 26*(5), 357-369.

Brown, M., Dehoney, J., & Millichap, N. (2015). *The next generation digital learning environment: A report on research*. EDUCAUSE Learning Initiative.

CAST. (2024). *Universal design for learning guidelines version 3.0*. https://udlguidelines.cast.org

Castells, M. (2010). *The information age: Economy, society and culture. Vol. 1: The rise of the network society* (2nd ed.). Wiley-Blackwell.

Chalmers, D. (2011). Progress and challenges to the recognition and reward of the scholarship of teaching in higher education. *Higher Education Research & Development, 30*(1), 25-38.

Chan, C. K. Y., & Hu, W. (2023). Students' voices on generative AI: Perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education, 20*(1), 43.

Coburn, C. E. (2003). Rethinking scale: Moving beyond numbers to deep and lasting change. *Educational Researcher, 32*(6), 3-12.

Commission européenne. (2021). *2030 Digital Compass: The European way for the digital decade* (COM(2021) 118 final).

Cuban, L. (2001). *Oversold and underused: Computers in the classroom*. Harvard University Press.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Czerniewicz, L., Agherdien, N., Badenhorst, J., Belluigi, D., Chambers, T., Chili, M., et al. (2020). A wake-up call: Equity, inequality and Covid-19 emergency remote teaching and learning. *Postdigital Science and Education, 2*(3), 946-967. https://doi.org/10.1007/s42438-020-00187-4

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute.

Design-Based Research Collective. (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher, 32*(1), 5-8.

Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher, 38*(3), 181-199.

EDUCAUSE. (2024). *2024 EDUCAUSE Horizon Report: Teaching and learning edition*. EDUCAUSE.

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education, 42*(3), 255-284.

European University Association (EUA). (2021). *Universities without walls: A vision for 2030*. EUA.

Fairweather, J. S. (2005). Beyond the rhetoric: Trends in the relative value of teaching and research in faculty salaries. *The Journal of Higher Education, 76*(4), 401-422.

Ferguson, R. (2012). Learning analytics: Drivers, developments and challenges. *International Journal of Technology Enhanced Learning, 4*(5/6), 304-317.

Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., Luetge, C., Madelin, R., Pagallo, U., Rossi, F., Schafer, B., Valcke, P., & Vayena, E. (2018). AI4People: An ethical framework for a good AI society. Opportunities, risks, principles, and recommendations. *Minds and Machines, 28*(4), 689-707.

Friesen, N. (2009). Open educational resources: New possibilities for change and sustainability. *International Review of Research in Open and Distributed Learning, 10*(5).

Fullan, M., & Scott, G. (2009). *Turnaround leadership for higher education*. Jossey-Bass.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915-945.

Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching: Theory and Practice, 8*(3), 381-391.

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *EDUCAUSE Review*.

Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.

Jarrahi, M. H. (2018). Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making. *Business Horizons, 61*(4), 577-586.

Jisc. (2019). *Building digital capability: The six elements defined*. Jisc.

Karabenick, S. A. (2003). Seeking help in large college classes: A person-centered approach. *Contemporary Educational Psychology, 28*(1), 37-58.

Kirschner, P. A., & De Bruyckere, P. (2017). The myths of the digital native and the multitasker. *Teaching and Teacher Education, 67*, 135-142.

Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education, 9*(1), 60-70.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Laurillard, D. (2012). *Teaching as a design science: Building pedagogical patterns for learning and technology*. Routledge.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.

Long, D., & Magerko, B. (2020). What is AI literacy? Competencies and design considerations. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-16). ACM.

March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science, 2*(1), 71-87.

Meyer, A., Rose, D. H., & Gordon, D. (2014). *Universal design for learning: Theory and practice*. CAST Professional Publishing.

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017-1054.

Nurshatayeva, A., Page, L. C., White, C. C., & Gehlbach, H. (2021). Are artificially intelligent conversational chatbots uniformly effective in reducing summer melt? Evidence from a randomized controlled trial. *Research in Higher Education, 62*(3), 392-402.

OCDE. (2019). *Recommandation du Conseil sur l'intelligence artificielle* (OECD/LEGAL/0449). OCDE. https://oecd.ai/fr/ai-principles

Oliver, B. (2019). *Making micro-credentials work for learners, employers and providers*. Deakin University.

Page, L. C., & Gehlbach, H. (2017). How an artificially intelligent virtual assistant helps students navigate the road to college. *AERA Open, 3*(4), 1-12.

Parlement européen & Conseil de l'Union européenne. (2024). Règlement (UE) 2024/1689 établissant des règles harmonisées concernant l'intelligence artificielle (règlement sur l'intelligence artificielle). *Journal officiel de l'Union européenne*, L, 2024/1689.

Perriault, J. (1989). *La logique de l'usage : Essai sur les machines à communiquer*. Flammarion.

Puentedura, R. R. (2006). *Transformation, technology, and education* [Présentation]. http://hippasus.com/resources/tte/

Rabardel, P. (1995). *Les hommes et les technologies : Approche cognitive des instruments contemporains*. Armand Colin.

Redecker, C., & Punie, Y. (Ed.). (2017). *European framework for the digital competence of educators: DigCompEdu* (EUR 28775 EN). Office des publications de l'Union européenne.

Reich, J. (2020). *Failure to disrupt: Why technology alone can't transform education*. Harvard University Press.

Ries, E. (2011). *The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses*. Crown Business.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Roy, S., & Clark, D. (2019). Digital badges, do they live up to the hype? *British Journal of Educational Technology, 50*(5), 2619-2636.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78.

Selwyn, N. (2016). Minding our language: Why education and technology is full of bullshit... and what might be done about it. *Learning, Media and Technology, 41*(3), 437-443. https://doi.org/10.1080/17439884.2015.1012523

Slade, S., & Prinsloo, P. (2013). Learning analytics: Ethical issues and dilemmas. *American Behavioral Scientist, 57*(10), 1510-1529.

© Jean-François Van de Poël · CC BY-NC-SA 4.0

Sorcinelli, M. D., Austin, A. E., Eddy, P. L., & Beach, A. L. (2006). *Creating the future of faculty development: Learning from the past, understanding the present*. Anker Publishing.

The Shift Project. (2018). *Lean ICT : Pour une sobriété numérique*. The Shift Project.

Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration*. New Zealand Ministry of Education.

Tinto, V. (2012). *Completing college: Rethinking institutional action*. University of Chicago Press.

UNESCO. (2018). *UNESCO ICT competency framework for teachers* (version 3). UNESCO.

UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. UNESCO Publishing.

UNESCO. (2023). *Guidance for generative AI in education and research*. UNESCO Publishing.

UNESCO. (2024). *AI competency framework for students*. UNESCO.

Van de Poël, J.-F. (2025). *Le cadre quadridimensionnel des compétences humaines-IA : Une approche intégrée*. Université de Lausanne.

van Dijk, J. A. G. M. (2020). *The digital divide*. Polity Press.

Vuorikari, R., Kluzer, S., & Punie, Y. (2022). *DigComp 2.2: The digital competence framework for citizens, with new examples of knowledge, skills and attitudes*. Office des publications de l'Union européenne.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Harvard Business School Press.

Williamson, B., Bayne, S., & Shay, S. (2020). The datafication of teaching in higher education: Critical issues and perspectives. *Teaching in Higher Education, 25*(4), 351-365.

World Wide Web Consortium (W3C). (2023). *Web Content Accessibility Guidelines (WCAG) 2.2*. https://www.w3.org/TR/WCAG22/

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education: Where are the educators? *International Journal of Educational Technology in Higher Education, 16*(1), article 39.

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice, 41*(2), 64-70.

© Jean-François Van de Poël · CC BY-NC-SA 4.0