

Modular Transdisciplinary Student Programme



Intellectual Output 4 of the Erasmus+ research project *Exploring Transdisciplinary Education combining Arts & Sciences*

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I Introduction: The Modular Transdisciplinary Student Programme

Exploring Transdisciplinary Education combining Arts & Sciences

This document is the result of a long term research-collaboration in the context of an Erasmus Plus Strategic Partnership project, named 'Exploring Transdisciplinary Education combining Arts & Sciences'. Strategic Partnerships are transnational projects designed to develop and share innovative practices and promote cooperation, peer learning, and exchanges of experiences.

This specific research partnership consist of RASL, the Rotterdam Arts and Sciences Lab (Willem de Kooning Academy University of Applied Sciences, Codarts, Erasmus University); the Graduate School of Creative Arts and Media (GradCAM), Technological University Dublin; Moholy-Nagy University of Art and Design, Budapest; Roskilde University; and the Master Transdisciplinary Practices at Zurich University of the Arts.

IO4

Exploring Transdisciplinary Education combining Arts & Sciences produced four Intellectual Outputs (IOs). This document is the deliverable of Intellectual Output four (IO4). IO4 is a Modular Transdisciplinary Student Programme that accumulates the knowledge of participating institutions about transdisciplinarity education as well as insights gained by conducting practical experiments in the form of educational pilots. Please consult the chapter 'Pilots' to learn more about our experiments.

The IO4 project team consists of Ágnes Karolina Bakk, Sami Hammana and Maaïke van Papeveld under guidance of Dániel Barcza, Roger Teeuwen and Marco Aperti (project coordinator) and supported by the talented student researcher Pragya Jain.



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The outcomes delivered by our colleagues from the other IOs can be accessed through the links below:

IO1: Transdisciplinary Education Methods, to arrange the process of multi-stakeholder collaboration and to stimulate mutual understanding

[This is not a gardening book](#)

IO2: A Stakeholder Code of Conduct, in order to ensure non-hierarchical collaboration processes

[Read more](#)

IO3: A Transdisciplinary Teacher Programme, developed to train teachers how to teach the new transdisciplinary approach

[Tuning Transdisciplinary Education](#)

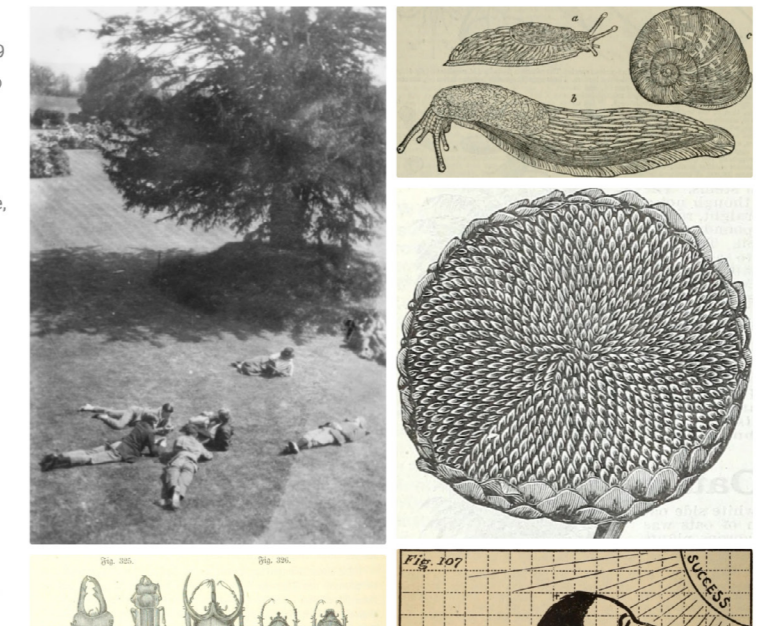
Tuning
Transdisciplinary
Education

[Tuning Words](#) + [Methodologies](#) [Events](#) + [Interviews](#) + [Resources](#) [Entanglements](#) [Credits](#)

Q ...

Tuning Transdisciplinary Education is a part of a larger **Erasmus+ project** that took place from 2019 to 2022. Initially, we, somewhat naively, planned to design a curriculum which would lay the grounds for transdisciplinary teaching. However, as we hosted different events, conducted interviews, gathered keywords, and reviewed related literature, projects and teaching practices, we realised transdisciplinary education is profoundly contingent and fluid. ¹

Collaborative teaching, which is what it must always be in a transdisciplinary context, is a journey that moves with, against, through and beyond disciplines and often makes vulnerable, if not debunks, hierarchies of knowledge. Transdisciplinary teaching requires care, attentive listening and making subtle adjustments in relation to oneself, others and the infusion of a place, time and situation. Individual and collective aims and visceralities must be accounted for.



How to use this document?

Before delving into the different ways ‘how’ this document can be used, a cursory excursion into the ‘what’ seems unavoidable. So, what is this document exactly? It surely is multiple things. Perhaps most importantly though, it is a resource comprising various transdisciplinary educational modules. These modules are developed within the research trajectory conducted by the IO4 team over the course of two years. Some of these modules are based upon pilot workshops that were held during our IO4 research trajectory, which have proven to be insightful in understanding the successful and less convincing elements to our process of designing modules. In short, this document brings together educational modules that have either been tried within a ‘pilot’ capacity, or thoroughly researched through literary sources. Other modules are contributed by our colleagues at the various institutions, who already teach transdisciplinary courses. We found these to be highly inspirational for this modular programme.

Now that the ‘what’ is addressed, answering the question that is the subheading becomes approachable. As mentioned above, this document contains a detailed description of several educational modules in addition to an extensive introductory account. There are two parts: a context component and a content component. The **context component** (the introduction, contributors, etc.) is written with linearity in mind. Starting from the beginning and ending at the end is perhaps the most insightful way of engaging with this part of the document. This will provide an overview of the research concerns, our trajectory and findings. The **content component** (the educational modules) are written with nonlinearity in mind. This component housed in the appendix to this document is akin to a bunch of building blocks that can be used to engineer a transdisciplinary student programme. Here, we advise the reader to engage with the modules in a chronologically disobedient

way. Picking up building blocks from the middle of the appendix and merging them with the ones at the end is encouraged. Furthermore, picking and choosing different workshops and lectures that are part of different modules is equally welcomed.

With the ‘what’ and the ‘how’ being covered, the reasons for ‘why’ this programme is structured according to a modular logic can be explained.

There are certainly many challenges when it comes to designing and offering a transdisciplinary educational programme. Firstly, the question of space within a curriculum arises: a modular programme would allow for introducing elements of transdisciplinary education within a curriculum that has limited resources and time. In this case, educational institutions can opt for a small experimental pilot, or a full course, by rearranging the aforementioned building blocks that make up the modular programme in the appendix to this document. Secondly, this IO4 modular

programme describes (although implicitly) the skill sets that an educator ought to have in teaching the specific modules. This modularity, therefore, allows for an adaptive process of designing transdisciplinary education to the expertise of a specific teacher or teaching team.

Conclusively, a modular programme has a degree of scalability that allows for the growth of transdisciplinary educational modules. The hope is that this document contributes to exactly that.

II Pilots

In the process of developing the modular education programme, IO4 organised and facilitated two pilots named *Trans/actions* and *Mapping the Technosphere*. The aim of the pilots was to test (combinations of) experimental workshops and gather the insights needed to develop the transdisciplinary modules.

Pilot 1: Trans/actions

The first pilot called Trans/actions, took place online on March 25th and 26th, 2021. It hosted students from the Graduate School of Creative Arts and Media (GradCAM), the Technological University Dublin, Moholy-Nagy University of Art and Design in Budapest, Willem de Kooning Academy in Rotterdam and the Master Transdisciplinary Practices at Zurich University of the Arts. The workshop aimed to think—and make—through a process of transdisciplinary ‘transactions’, and to produce and share different methods that could improve collaborations that aim to move beyond the confinements of disciplinary borders.

The workshop was hosted by Sami Hammana, Ágnes Karolina Bakk and Maaïke van Papeveld.

The programme contained four short workshops:

Making Self(s): AutoBioFiction

Making Words: Neologisms

Making Wor(l)ds: Clouds

Making Pasts: Archives

Making Self(s): AutoBioFiction

The primary aim of this short exercise was to get to know each other. Its underlying aim, however, stemmed from the desire to rethink the mundane and recurring task of writing an auto-bio. Whether this is for a publication, exhibition or presentation... The participants of the workshop introduced themselves by way of fictionalising the process of writing (about) the Self.

g it. Right now, ion, a ray of hope

Between thread and breathe she blobs out of the atmosphere. Shifting patterns, shifting space the blob extends the place. Zoom in, zoom out, textile it's about. Breathing in, breathing out, the choreography comes around. So blob the poop out to get it all about? Where to get from now? Let's see her blob style blowing like it's always flowing. Coming to an end is all she pretends.

Eden
An art fuses, actual image presur The p perform expect morph Tumb hand (howev myself Intrica King, f I want plasm

I guess you've never heard of me before. And that is fine. I'd rather stay in the

Making Words: Neologisms

The aim of this exercise was to develop new words ('neo = new' + 'logos = words'), by way of seeing language as consisting of material 'blocks'. These material blocks, whether they are root-words, prefixes, suffixes, etc., are rearranged to draw different/new insights. The participants were asked to develop neologisms in relation to any project that they are engaged with at the commencement of the 'Trans/actions' workshop.

ionalgamate (un-al- ga- mate)
ionannas (identity) + amalgamate
combining/uniting the different parts of the self

draioite (dree- owt)
draiocht (magic/druidism) + symbiote
the magic/spirituality of symbiosis/connectedness

praxis + experiment = **praxperiment**
design + methodology = **designology**
reflection + praxis = **reflaxis**

Nature + Chaos = naos
a substance or being in its natural state of imbalance. Eg: a malnourished plant

Visual + Balance = Visualance

A pleasant sight, ambience or environment. Eg. a sunset

Organic + Wearing = Wearanic

A product or result of growth in appearance. Eg: a smooth pebble

soundology - the study of sound
soundography - drawing with sound; the photographic records of a soundscape
soundships - the portrait of a relationship through sound; a conversation of sounds
soundchives - the archives of recorded voices/sounds that serve as a time capsule

violacesis
violaceous + thesis
science that studies

Job interview in the future - Claire

"Hi, nice to meet, I am Claire, what do we do together a hand? I'm more of a 'hugging' job."

"So what have I been doing the past years... well, a lot. I have a great difficulty sitting still- that's what also annoyed my mom when I was a toddler haha"

"No but seriously! I have seen many places- great food! and met many people great company and met an up for a new challenge, that's why I am doing this interview today"

"I would say my skills involve care-taking of plants, cats and a small selection of humans; fast reading and slow-walking; making dances that I am not on Twitter's trending topic"

"My weakness are singing in key, writing complaint letters, running; cooking anything other than the Asian cuisine; making things 'concrete'"

"I think I would be a good addition to your company, or at least, I think I would be good company"

"Am looking forward to your response, Claire"

Job interview in the future - Claire

"I guess it's a mixture of anxiety and excitement. I'm not sure yet, I am afraid of it, yet I want to dive in it. Let me feel it, see it, be part of it. Is this a weakness or a strength?"

reading other people's written thoughts becomes more fascinating as if they allow you to enter their (non)fiction worlds

Roxana

I guess you've never heard of me before. And that is fine. I'd rather stay in the background. I mean the background you imagine behind a painting. No loud noises, no crowds, no utterly frustrating environments. I like to look at things from up above - flying prevents me from falling into all of those scary things. Things can be exhausting. I'd rather look at feelings and thoughts. Nothing heavy. Well, feelings and thoughts are heavy. I hope you get me. My mind works in a context the world and language often can't match. Sometimes I just don't know if it's me that is too small or the world. I live in a cage you might call it playing here and hands with the clouds.

Eden
An art fuses, actual image presur The p perform expect morph Tumb hand (howev myself Intrica King, f I want plasm

Mehr-Deut-ig-keit t-Rotz Re-Dukt-ion
Am-big-ü-edad pese a la re-ducción
Am-bi-guit-à no-no-s-Tante la rid-uzi-one
Am-bi-guit-à no-no-s-Tante la rid-uzi-one

IN-FORM-ATION
KON-T(O)UR-EN
TEX-T(O)UR-EN
TRANS-LATE-N
AB(C)-LAUF
OVER-LAP-PING

NEOLOGISMS:
no-no-s-Tante = notante
over-lap-ping = pinglap
tex-tour-en = entourex

DÉANTY (day-n-tuh-tee)
Déan (to perform) + identity/entity
Performed identities

ionalgamate (un-al- ga- mate)
ionannas (identity) + amalgamate
combining/uniting the different parts of the self

draioite (dree- owt)
draiocht (magic/druidism) + symbiote
the magic/spirituality of symbiosis/connectedness

praxis + experiment = **praxperiment**
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Nature + Chaos = naos
a substance or being in its natural state of imbalance. Eg: a malnourished plant

Visual + Balance = Visualance

A pleasant sight, ambience or environment. Eg. a sunset

Organic + Wearing = Wearanic

A product or result of growth in appearance. Eg: a smooth pebble

Technology + Erosion = Erology

A study of aged or 1st generation machine or technical device rusting or deteriorating but is still functioning. Eg: Nokia 47 or first satellite ever positioned in Earth's orbit.

soundology - the study of sound
soundography - drawing with sound; the photographic records of a soundscape
soundships - the portrait of a relationship through sound; a conversation of sounds
soundchives - the archives of recorded voices/sounds that serve as a time capsule

violacesis
violaceous + thesis
science that studies the future scenarios of the colour purple

lilaction
lilac + fiction

mauess
mauve + guess

emotion-escape
emotional conscious
tracking action
subconfusion
a deeper, fundamental confusion
sublemation
sublime + emotion

winteractivity
thrillgeny
audiencefication
hotaudience
magnosphere
experianfication
pamersion
mageexperience

Making Wor(l)ds: Clouds

This exercise aimed to give insights in speculations on future developments. The exercise followed these steps:

1. Choose an area of an imagined area of the future: e.g., food, mental health, money, climate, etc.
2. Through brief desk research, identify some signals that can point toward the future: these signals can be technological developments, or new laws (or etc.) that might seem surprising at first, but they can be interpreted as a driving force of the future (e.g. signs that prohibit drones in a specific zone, a law about cryptocurrency, funding of a special kind of school etc.)
3. Based on the signs describe in 3-4 sentences how these can affect the future in 10 or 25 years.

Group 1 (25 years): What if planet B does exist? In 25 years, space-traveling will be a feasible option for solving the pandemic. Politicians of planet Earth and planet B have agreed upon a treaty: "the 'Trans-species' people who are infected have to be in quarantine on Earth, and once you are cured/your vaccination, you can travel to 'light zone'". Bonus: also solve over-population, which has been an important driver behind the pandemic and the climate crisis. Transdisciplinary politicians which are not all coming out of political backgrounds, new generation starts to form the political situation as it's not about being a politician it's more about dealing with problems in a new way for political decisions. Now can we refrain from making the same mistakes we made on planet A? Ground rules: -do NOT copy everything from earth -no plastic, yes re-cycling -no room for politicians who are not concerned with the climate and human rights. Panel B - A fresh start for those who can move to Planet B. (2025) They have to respect the rules.

Group 2 (50 years 2071): Hunger, Artist, Consumer goods. Everybody is an artist and lives communally and is able to use teleporting though images to gain access to bodily needs and imagined futures where hunger does not exist. Digital Image Manipulators are a virtual platform that allows us to manipulate our environment and live in it. Have we become pixels? Do we even exist anymore? Eden 72, Roksana 72, Roger 97.

Group 3 (10 years 2031): What if...? Scientists refuse the call to arms and instead... The world is changing... Scientists invent human-made devices that allow successful living in freezing climates. New people can live in Antarctica without building or food. The genes are sent to live there. Live a reverse, cold Elysium. What if scientists developed a certain map based on research to highlight effective areas and connections between each area and organize workgroups. If they could form a new way of substance with the help of experiments with volunteer groups. Scientists invent human-made devices that allow successful living in freezing climates. New people can live in Antarctica without building or food. The genes are sent to live there. Live a reverse, cold Elysium. The homeless can squat empty buildings in other countries. People move to warmer climates to live outdoors. A social moment - full global moment (literally) Imagine the dice consequences... One position 'radical' - other position creator.

Future of Health = Future of De-Patrichism: New Zealand will become one of the world's only countries to offer paid bereavement leave for workers (mother and father) who suffer a miscarriage or stillbirth. "...there are some who are making employees use up their sick leave at a time when they are dealing with extreme loss, and that is callous and that is wrong."

Future of cohabitation: -An increasing number of people cohabit outside of marriage, and also cohabit with more than one partner outside of marriage has also gone steadily higher. Family compositions change. -People are getting older -Nature-inclusive architecture & smart cities

Future of work: - hyperflexible (trend)/(platformization) - spiritual (trend) - (semi)automated (technology)

Making Pasts: Archives

This exercise commenced with a short talk on the understanding of 'archiving', which can be explained as the practice of (re)inscribing 'commencements and commandments'. Following this understanding, archives have a crucial role in making space for events, notions and/or developments that are outside of the status-quo. Or in other words, this exercise aimed to explicate the complexities of collecting and organising material that have the aim to make a mark on collective consciousness.

ARCHIVE OF PERFORMED IDENTITIES: gender traits, COLLECTION OF TEXTS, PERSONAL TESTIMONIES, THE COLLECTION OF JUNK + STUFF, KEY WORDS, WHAT NEXT? WHAT FORM WOULD THIS ARCHIVE TAKE? website, universal access, in storage, display, objects / texts / collection, WHITE CUBE? MUSEUM? MY BEDROOM? YOUR GARAGE?

FORMATION PROCESS: CLASH RESEARCH, WEIRDO, SPLIT, ALGORITHM, ORDER, CONFRONT PROTOTYPE, TRIGGER, RHYTHM, FRAME, COOPERATE DESIGN, CIRCLE, OUTPUT, TECHNOLOGY INFORMATION.

the grand archive of violacesis: general studies, purple specialization, inclusivity. chromatics, color science studies the perception of color by the human eye and brain. blue + red using a limited color palette, purple, not a basic color on the edge of the color space (chromaticity diagram being a spectral color).

BURNOUT: Dominant, Status Quo Existing Archives; Non-Dominant, Missing Archives; Sciences: - Medicine - Psychology - Neurology; Management/Discourses; Self-help Pop Psychology; Therapies Alternative Medicines (Acupuncture, Meditation, etc.); Non- Occupational Syndrome cases (the removal of waged work from the equations. E.g unemployment, care labour, etc.); Details of personal experiences; Unaccounted for symptoms; Speculations: - Life after burnout - Burnout as necessary transformation - 'Long Burnout' never-ending cases; Periphery Phenomena: - Hikikomori - Acedia - 'Pressure Depression'.

CLASH RESEARCH: - Hobbies rise in quarantine worldwide - time frame starts in October 2019, but not linear - open, public, online archive. * list of hobbies and activities mentioned * most popular interests and searches * articles, podcasts, tv news recordings * objects, works created * objects used for hobbies.

www.soundchives.com: mum and dad, at home, trip with frs.

Pilot 2: Mapping the Technosphere

The second pilot, Mapping the Technosphere, was also conducted in the form of an online workshop, on May 19th, 2022. It hosted students from TU Delft, Erasmus University Rotterdam and Willem de Kooning Academy (Rotterdam University of Applied Sciences). The workshop aimed to explore the undisciplined methods of collaboration and research that are situated within the space occupied by large scale technological infrastructural systems, also known as the technosphere.

The workshop was hosted by Maaïke van Papeveld, Pragya Jain and Ágnes Karolina Bakk and contained workshops by our team member Sami Hammana and two guest speakers: Joseph Catlett and Mihály Minkó.

At the time of this workshop, **Joseph Catlett** was in the final stages of writing his Bachelor's Thesis for his studies in Computer Science and Engineering at TUDelft. He also took part in RASL's minor *Re-imagining Tomorrow Through Arts & Sciences*. Joseph has always been passionate about art and design and since starting his studies in Computer Science, he has been looking for a way to marry these two disparate interests.

This journey has led him to profound questions, such as 'what makes humans creative beings?', 'what separates them from simple biological machines?' and 'why do we make art?' These are the questions that drive Joseph to further his research within the field of Computer Science.

Mihály Minkó is a data visualization professional who studied Philosophy at the University of Szeged. His main focus areas are network visualization and business intelligence dashboard visualizations. Currently, he is a researcher at the Innovation Center of Moholy-Nagy University of Arts & Design, where he focuses on the possible use of mycelium-based biocomposites. Networks of living entities and social structures are similar from a visualization perspective.

The programme consisted of three parts:

- A lecture and workshop by Sami Hammana
- A presentation by Joseph Catlett
- A workshop by Mihály Minkó

Lecture and workshop by Sami Hammana P1 - Lecture: *Contamination: Technospheric Transdisciplinarity*

We are constantly reminded: nature and culture can't be separated, quantity and quality can't be separated, disciplines can't be separated. Nevertheless, Modernity relentlessly tried to draw these separating lines, and is in turn constantly faced with many things as a result. One of the results of the inability of separation is the notion of contamination.

Whether it is the event of humans contaminating geological spheres, culminating in the presence of the Technosphere. Or, disciplinary separation being untenable, resulting in Transdisciplinarity. Contamination is a

recurring condition that reminds us of one thing: demarcating lines can't be insisted upon and an understanding of complexity is necessary.

Contamination: Technospheric Transdisciplinarity was a lecture that aims to think about undisciplined methods of collaboration and research that are situated within the space occupied by large scale technological infrastructural systems. Followed up by the workshop *Data Visualization Aphorisms*, the first hour of this workshop aimed to provide tools and methods to think through self-formulated student research questions, by way of juxtaposing it to the backdrop of the spatial conditions of the technosphere.

Contamination: Technospheric Transdisciplinarity

IO4 190522
Sami Hammana



Workshop - Data Visualization Aphorisms

“A clouded river, a shrunken branch, a coughing fish: these are also instances of “ data visualization,” and we do a bad job of interpreting them and acting on them. At best, we attempt to pathologize them and even criminalize them because they do not conform to quality metrics and thresholds.” (Bratton, B. *The Stack: on Software and Sovereignty*. 2016. 302. print)

Contaminations happen on multiple levels in the Technosphere. So does the stark division of qualification vis-a-vis quantification. The former is quite often associated with the arts, as the latter is vernacular synonymous with the sciences. In light of the inseparability of these notions, we approached the notion of Data Visualization without any mapping, graphing, drawing nor imaging. Instead, we dealt with the question

of how data visualizations can occur through a more universally applied media. That is, the medium of writing.

We followed Benjamin Bratton’s evocative writing style of reminding us that data visualizations occur outside of the fields of metrics, that is the data visualization of “[a] clouded river, a shrunken branch, a coughing fish”. By doing so, this workshop proposed to think, write and present something very similar. The attempt was to evade the deadlock of metrics when it comes to data visualizations by writing scenarios that ought to be read as such, but aren’t interpreted as such. These scenarios could be fictional and/or nonfictional.

Containing a maximum of 200 words, these aphorisms exemplify contamination in times of technospheric transdisciplinarity.

PadPresentation by Joseph Catlett *Who put the computer's drawing on the fridge?*

During his time at the RASL minor Re-imagining Tomorrow Through Arts & Sciences, TU Delft student Joseph Catlett created a research project around the topic of human creativity and artificial intelligence. His work, titled “Who put the computer’s drawing on the fridge?”, explores profound questions, such as ‘what makes humans creative beings?’, ‘what separates them from simple biological machines? and ‘why do we make art?’ In this short inspirational talk, Joseph presented his research findings and suggested potential uses for AI to analyse our own humanity. He also gave a live demonstration of how a generative art program is coded.

layouts for many of their public and private buildings. The Islamic world was so influential and mathematically innovative that the word 'algorithm' itself is etymologically Arabic.

Furthermore, we have evidence of rocks carved with grid systems, from over 70,000 years ago, that seem to depict a generative way of marking designs and patterns on them [2]. It seems there is something fundamental to creating aesthetic patterns through systems, rules, and generative practices.

So is the computer another step in human's road to objectifying or automating the creation within our expressive mediums? Well, Philip Galanter offers an interesting anecdote, shedding light onto the relationship between one of the greatest industrial advancements, the Jacquard Machine, and generative art. The Jacquard Machine was an attachment to automate the process of the loom, invented in 1805. One of Jacquard's primary goals with the invention of this machine was to revolutionize the process of generating textile designs with great complexity and interesting patterns. Almost 150 years later, Charles Babbage and Charles Hollerith adapted Jacquard's method of punch card programming, the main way of assigning a pattern to the Jacquard Machine, into their creation of a

to create and assign more than what is doable by hand, this artform is driving our technology forward.

Fig. 7E.8 The image to the right depicts an original punch card used to translate mathematical notation into machine readable and executable commands. (Image courtesy of Computer History Museum)

Below that is the punch card used to do the same with the Jacquard Loom. (Image taken from Carl A. Knott Library, Cornell University website) You can see that the computer's method of numerical translation was directly adopted from the textile innovation from ~150 years prior.

Joseph Catlett

Workshop by Mihály Minkó

Network visualization

This workshop aimed to uncover the basic ingredients of a simple but successful network visualization project. After a short lecture discussing the basic concepts of network science, participants were introduced to all steps of the data gathering and preparation process and were able to create their own network visualization from beginning to end.

The image is a screenshot of a Zoom meeting. The main part of the screen is a window titled 'Gephi 0.9.3 - Project 1' showing a complex network visualization. The nodes are labeled with names and media-related terms, such as 'Wintemant...', 'Kötter Tamás', 'KonVerzió', 'BalFake News', 'Tárling vezér', 'Antiszcóci...', 'Apo mandu...', 'Mégajó Of...', 'Tárling vezér', 'A kopasz o...', 'Derecska', 'Nem akarom...', 'Vasárnap.hu', 'Trombitás...', 'Index.hu', 'Magyar Nem...', 'SIVALKODÓK', 'Védeli Tár...', 'Pesti TV', 'Mandiner', 'Bayer Zsol...', 'Bácskai Po...', 'Deák Dániel', 'Rákay Philip', 'Aktuális', 'Hír TV', 'PestiSrác...', 'Origo.hu', 'Számok - a...', 'ELEG', 'Magyar Nem...', 'Magyar Nem...', 'Soha többé...', 'Bohár Dániel', 'Karc FM', 'Milliók Or...', 'Magyar Hí', 'Híradó.hu', 'A Rigoriter', 'Kovács Zs...', 'Schob M.', 'Vargajudit', 'Kocsis Máté', 'Orbán Viktor', 'Hullósi...', 'Sajó', 'Francia', 'only one C.', 'Albér, a...', 'Nacsa Örncc', 'Magyar Hí', 'Vargajudit', 'MI, magyarok', 'Varga J.', 'Varga J.', 'Varga J.'. The nodes are interconnected by a dense web of lines. At the bottom of the Zoom window, a Windows taskbar is visible with various application icons and system information: '22°C Napos', 'HUN', '14:23', '2022. 05. 19.'. On the right side of the Zoom window, there is a vertical stack of five video feeds. The top two feeds show a woman and a man. The third feed shows a man with glasses, with the name 'agnes bakk' overlaid in white text on a dark background. The bottom two feeds show a man and a woman.

III Modules

Compiling a modular programme

The modules offered in the appendices of this document range from 2 ECTS to 5 ECTS in size and can be used separately (for example as an elective course) or they can be combined to create a full programme (for example a 30 ECTS minor). The modules can be taught by their original creators, or you can select local educators to teach the courses. Feel free to reach out to the contributors through the contact details included in the appendices.

The minor 'Re-imagining Tomorrow through Arts and Sciences' by RASL offers insight into how a modular programme can be created and which challenges to consider. Also referred to simply as 'the RASL minor', this programme brings together students from Willem de Kooning Academy, Codarts, Erasmus University and TU Delft. In transdisciplinary groups, students work on a collaborative undisciplinary inquiry into a self-selected matter of concern. The first part of the minor (see visual below), consists of several modules of various lengths (3, 6 or 9 weeks), among which Almar and Zina's 'Design Studio: Re-Imagining Futures of Learning', here called 'Designing a Learning Experience'. Tamara's module 'Transgressing/Assessing' was also born in the RASL minor.

The visual on the next spread gives an overview of the programme.

RASL Minor: Re-Imagining Tomorrow Through Arts and Sciences

Learning how to learn differently through interdisciplinary collaboration across arts and sciences



unlearning

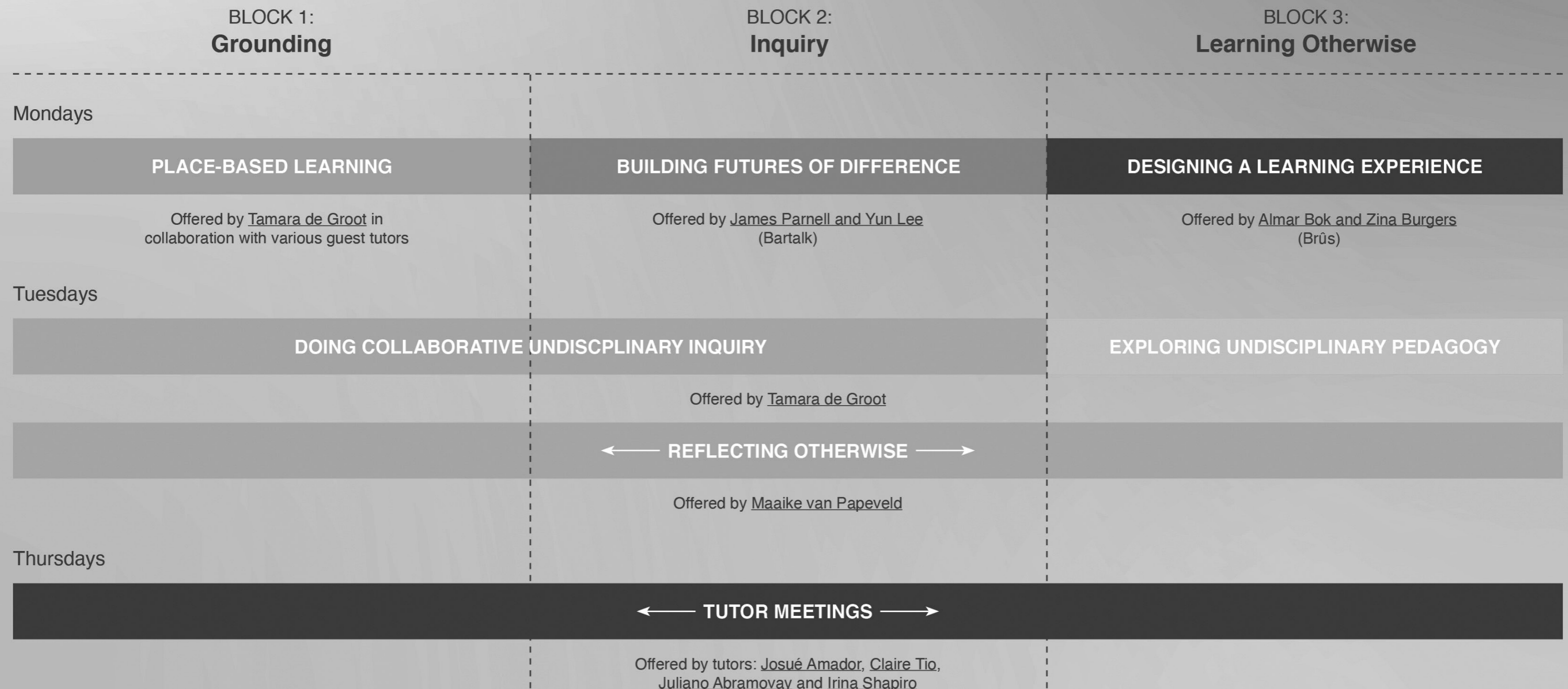
through encounters with difference (other disciplines/ ways of knowing/ backgrounds/perspectives)

re-imagining

by exploring interdisciplinary alternatives

enacting

alternative ways of learning and knowledge production by creating learning experiences around matters of concern



Offering a transdisciplinary programme that is accessible to students from different institutions can pose some logistical challenges. Learning from our experiences coordinating the RASL minor, we identified the following challenges to consider while designing the programme:

Accommodating multiple academic calendars at once

One of the challenges the RASL minor faced was finding a way to accommodate different academic calendars at once, as some universities require a 15 ECTS minor and others a 30 ECTS one. We solved this by splitting the programme up in two parts of 15 ECTS or 10 weeks in length. Each 'version' of the programme is evaluated and approved by the exam committees at their respective institutions. You might experience similar challenges in other areas, such as assessment (navigating different grading systems), online infrastructure, misaligned holidays, etc.

Creating an 'in-between' space

We noticed that the learning environment in which the RASL minor takes place strongly influences the modes of collaborating and communicating that are activated. We also found that choosing one institutional context over the other seemed to give more weight or importance to the kind of knowledge that particular context represents, and to who 'owns' that knowledge. Since 2022, RASL has been hosting the minor at the RASL Spaces in de Hillevliet, a centre for culture and society in the South of Rotterdam. We highly recommend hosting the transdisciplinary programme at a comparable 'in-between' space.

See also the resource Tuning Transdisciplinary Education, developed by our colleagues from IO3, which offers perspectives and resources to consider when 'tuning' collaborative transdisciplinary educational practices.



Overview of the included modules

The transdisciplinary modules included in the appendix of this document are:

Design For Care

5 ECTS - 12 weeks

Developed by Renáta Dezső

Educating for the future requires collaboration among professionals and people with impairments. The course was a knowledge-sharing project Design for Care, comprised of interdisciplinary and international teams based on dominant models of ability and (dis)ability studies. University students cooperate with each other to learn from children with severe impairments and their caregivers to increase the shared competence of embodied knowledge, which can then be applied to specific professional challenges.

Design Studio: Re-Imagining Futures of Learning

3-5 ECTS - 6-12 weeks

Developed by Almar Bok and Zina Burgers

In this course of 5 to 8 sessions, this course asks students to radically reimagine (practices of) learning for tomorrow. Combining futures literacy, transition thinking, design and action-based education, this course guides students in developing concrete "learning experiences" that immerse others and make them reflect on higher education.

Ecology- Data visualisation

5 ECTS - 24 weeks

Developed by Zsófi Szonja Illés

The Balatorium is a research and education project within the VEB2023 (Veszprém-Balaton 2023 European Capital of Culture) programme series, which aims to raise awareness among 14-18 year olds about climate change, land use and other ecological challenges affecting Lake Balaton. During the two semester course, students will design and implement an alternative educational site.

Future Forecasting

5 ECTS - 12 weeks

Developed by Ágnes Karolina Bakk

This course looks at the many changing factors in our lives, which one can be affected by us, and which one of these can be changed by us. During the course the participants will learn "forecasting" techniques and future-oriented tendencies: this will help to better plan and implement design processes and give more complex answers to current issues. They will learn how to read signs, how to interpret trends and how to apply these to their design methods. These techniques can be deployed on several media and it also helps creators to offer more reflexive and self-relied answers.

Mapping the Technosphere

5 ECTS - 10 weeks

Developed by Sami Hammana

Mapping the Technosphere relies upon the contemporary phenomena of an additional and man-made 'sphere' that invasively lodges itself within the ecological spheres on Earth. This odd and seemingly ungraspable phenomenon of the technosphere will be the protagonist through which this educational module unfolds. Its condition of being simultaneously pervasive and elusive brings the importance of mapping. This will be the main aim in the module.

Tangible maths, Be STEAM!

5 ECTS - 12 weeks

Developed by Dóra Szentandrás

During the "Be STEAM! / Tangible Mathematics" course, in collaboration with BUDAPEST SCHOOL, STEAM teaching methodology research will be used to design and develop a series of tasks for public education that provide material visualisations of mathematical concepts and relationships for young school children. During the course, students will work in teams with the students from BUDAPEST SCHOOL and will jointly participate in project development. Part of the assignment will be to hold a rehearsal session for school children, where they will be able to create the objects after having acquired the necessary background knowledge.

Trans/actions

5 ECTS - 10 weeks

Developed by Sami Hammana

The core aim of the Trans/actions module is simple: to produce and share different methods that could improve collaborations that aim to move beyond the confinements of disciplinary borders. Participants are divided over four groups of four students each, each group is led by one of the four educators. In these smaller groups, the participants will work on transacting different understandings of transdisciplinary collaborations through several exercises.

Transgressing/Assessing

2,5 ECTS - 8-10 weeks

Developed by Tamara de Groot

This course is offered as a supporting trajectory within another transdisciplinary course or minor (or parallel to another course), to help students dive into the world of assessment to develop their own assessment trajectory and increase their assessment literacy and pedagogical intelligence.



Appendix: The Transdisciplinary Modules

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- 64 – Trans/actions
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module:		Design For Care	
by:	Renáta Dezső	course duration:	12 weeks
		ects:	5
		study workload:	140 hours
		contact hours:	45 hours
		hours of self-study:	95 hours
course outline:		<p>Similar to McDonagh’s (2015) initiative, we began planning for our workshop by investigating impairments through simulating them in a workshop in which students and teachers had to empathize with the challenges of impairment in self-reflective practice.</p> <p>- On the second day, university students participated in an onsite programme at the Csillagház Primary School, where they could meet children with special needs as well as their teachers in their daily environment. After this visit, there was time for discursive knowledge-sharing about their experiences. Educating for the future requires collaboration among professionals and people with impairments. The course was a knowledge-sharing</p> <p>project Design for Care, comprised of interdisciplinary and international teams based on dominant models of ability and (dis)ability studies. Design thinking served as a structured methodology throughout the workshop, which teaches skills such as team building, empathizing, defining, ideating, prototyping and testing that is essential as both analogue and digital means. University students cooperated with each other to learn from children with severe impairments and their caregivers to increase the shared competence of embodied knowledge, which can then be applied to specific professional challenges. Secondary school design, industrial and social design university students are all relatively young when they begin their education, and educators need to engage them</p>	

carefully with topics that might not mirror their own needs or expectations.

Description:
 Laszlo Moholy-Nagy University of Art and Design in Budapest (MOME) invited students from the University of Applied Arts Vienna (UAAV) to participate in a short workshop-based course. The ensuing research was made possible through a grant from the Hungarian National Art Institute (NKA). This initiative, titled Design for Care, encompassed a knowledge-sharing exchange programme around design research and digital crafting in cooperation with the Csillagház Primary School in Budapest in the spring of 2018. Over four days, seventeen university students cooperated in interdisciplinary and international teams. (Students came from the Design and Art Department, Institute for Theoretical Studies at MOME, as well as two departments of UAAV, including the Design Architecture and Environment for Teacher Education Department of the Institute of Art Sciences and Art Education; and the Social Design – Arts as Urban Innovation Department of the Institute of Arts and Society.)

‘The stakes in the design process for people with disabilities are not only what the person can do with a new design object, but what they become altogether: the way they see themselves, the way they see their world, the way they connect with other entities, both human and non-human’ (Winance, 2014).

Our aim was also to sensitise university students, so we collaborated with the special educators of Csillagház Primary School to conduct a workshop for transferring practical experience (knowing-in-action), to learn from both children with severe impairments and their caregivers, to turn the experience into shared competence of knowledge (knowledge-in-action), and to be able to apply specific professional challenges. We experienced how successfully the creative practice-research-teaching nexus negotiated in creating artistic output and that the accompanying academic discourse both informs and are informed by teaching (Bennett et al., 2010).

course content:

Focusing on self-reflective practices and theoretically based on critical disability studies and design thinking methods, the project Design for Care demonstrates that empathizing with people with multiple disabilities can generate new knowledge, even within a short timeframe.

Topics covered during the course are:

- exploring & understanding (dis)ability studies
- knowledge-in-action
- exploring creative gameful approaches in education
- prototyping activities
- design thinking methods and group work

In the original five-day Design for Care Course, students had to design objects and explore (dis)ability studies. Due to time restrictions, the workshop needed to focus on predetermined design development themes related to improving an object from the field of rehabilitation engineering and assistive technology. On the third day, the programme further introduced the design thinking methods. The participants teamed up to present early-stage prototypes of their ideas. Students were asked to reflect upon their strengths, talents and professional experience. This activity empowered them individually to share their assets and gave the groups a survey of particular skills within the teams. Further desktop research fostered brainstorming in mixed teams formed out of university students. Based on playful or ludic activities, the lecturers facilitated mixing ideas among team members to learn new things from interdisciplinary experiences and each other. The fourth day was spent preparing prototypes at Fablab Budapest. During the short time allowed to produce objects, the teams developed a workflow based on their interdisciplinary knowledge and experience. On the final day, the teams introduced their prototypes to the experts from the Csillagház Primary School and received feedback.

learning outcomes:**Knowledge:**

- Knowledge of disability studies, social and political models, and theories in disability studies.
- Familiarity with the main elements, tools, and steps of design thinking methods relevant to their field of expertise.

Skills:

- The student identifies situations where design methods need to be applied for better care situations. Plan and evaluate a given prototyping process.
- Documents the knowledge-in-action process, results, novelty and added value to the design activity she/he carries out understandably and professionally.

Attitude:

- Strive to carry out their professional work in an experimental, exploratory, and innovative way. Seek to carry out their prototyping activities in a planned way.
- Open to consciously considering the social view of disability in his/her creative and design activities when applicable.
- Aware and attentive to human-centred societal problems.

student preparation and course literature:**Compulsory:**

- Couvreur, Lieven De and Goossens, Richard (2011), 'Design for (every)one: Co-creation as a bridge between universal design and rehabilitation engineering', *CoDesign*, 7:2, pp. 107–21.
- Jones, Peter (2013), *Design for Care: Innovating Healthcare Experience*, Brooklyn, NY: Rosenfeld Media, <https://rosenfeldmedia.com/books/design-for-care/>.

Recommended:

- Dong, Hua and Vivat, Bella (2008), 'Co-design involving people with disabilities', *International Conference on Engineering and Product Design Education*, Universitat Politècnica De Catalunya, Barcelona, Spain, 4–5 September,
- Mallett, Rebecca and Runswick-Cole, Katherine (2014), *Approaching Disability: Critical Issues and Perspectives*, London: Routledge.
- Steen, Marc (2013), 'Co-design as a process of joint inquiry and imagination', *Design Issues*, 29:2, pp. 16–28 https://www.mitpressjournals.org/doi/abs/10.1162/DESI_a_00207.
- Tanaka, Shogo (2013), 'The notion of intercorporeality and its psychology', *The Bulletin of Liberal Arts Education Center*, 33, pp. 91–98.

method of assessment and assessment criteria:***Exam method:***

End-of-term presentation and documentation

Additional mode to be applied for checking the relevant knowledge:

- self-reflective discussion
- operational model in prototype creation on the presented wheelchair
- optional participation in conference presentation
- optional participation in journal article writing

Components of the grade:

- Design excellence (40%)
- Participation in group activities (30%)
- Quality of implementation (20%)
- Presentation quality (10%)

module:	Design Studio: Re-Imagining Futures of Learning		
by:	Almar Bok and Zina Burgers from <u>future-education studio Brûs</u>	course duration:	6-12 weeks
		ects:	3-5
		study workload:	84-140 hours
		contact hours:	25- 35 hours
		hours of self-study:	59-105 hours
course outline:	<p>“The secret of change is to focus all your energy not into fighting the old but building of the new” – Socrates</p> <p>How can we reimagine education to meet the needs of future generations? Combining futures literacy, transition thinking, design and action-based education, this course asks students to radically reimagine (practices of) learning for tomorrow.</p> <p>Students team up and bring together their collective intellect, personal experiences and their power of imagination to systematically deconstruct higher education, in order to come up with desirable alternatives.</p> <p>In this course of 5 to 8 sessions,</p>		

<p>freedom, we offer structured sessions, inspirational teachers and a rich portfolio of learning materials. This way we ensure academic integrity. A mix of structure and healthy chaos ensures radical innovation.</p> <p>The course combines educational philosophy and science (e.g. Biesta’s purpose of Education, Burns model of ecological design) with practical design tools to give students a way to deal with the complexity of the topic and navigate the uncertainty that comes with open learning environments.</p>	<p>Closed Loop Educational Innovation (CLEI) This course feeds within an organizational culture of learning; it involves students into the innovation cycle of the school, as teachers, directors and staff members are invited to participate in the immersive learning experiences of the students. They are encouraged to take inspiration from the experiences as the ‘teacher manuals’ are openly shared. This way, the school provides students with agency in changing the curriculum, allowing for radical bottom-up innovation and building a regenerative feedback-loop.</p>
assignment to students:	<p>Students will get to design a two-hour learning experience (preferably offline) on a topic of their choice with a group of (x) students. Even though this is an open design brief, there are a few prerequisites that need to be taken into account:</p> <ul style="list-style-type: none"> • The learning experience needs to integrate various (academic) perspectives, including a practioners perspective, i.e., how is the topic experienced by somebody working with, or living in it? Think of indigenous knowledges, artistic interpretations, or minority voices. Make sure that you allow time and space for their reality, going beyond theoretical lenses. • It needs to showcase a degree of innovation or experimentation – departing from an authentic vision on learning. Students are not allowed to copy or imitate what they have seen somebody else do, but instead blend different methods and ideas together to create an original design.

learning outcomes:**Individual level:**

Students are able to...

- define personal learning objectives
- be mild for themselves and others and accept the idea of possible 'failure' during their process
- critically assess the works of a variety of educational philosophers and scientists
- take responsibility and agency within their team
- reflect on their personal and team process

Team level

Students are able to...

- critically reflect on the existing educational system and their position within it.
- define a vision for future education
- explain the relevance, perspectives and complexity of the chosen topic/ theme/ concern
- design and host a learning experience of 2 hours that has value for others.
- work effectively and respectfully in an interdisciplinary team, in which they learn from each other and build on each other's strengths
- deal with the uncertainty that comes with a design process
- use design and future literacy frameworks, methods and approaches
- reflect on their team process

Cohort level

Students are able to...

- Bring the different visions on future education together in one collective model, with respect for differences and tensions.
- reflect on their group process

deliverables/outcomes:

- A one-pager in which students contextualize their learning process and can communicate the value of their work to others (individual level), that answers to the question: how do I see the world of tomorrow?
- An approximately two-hour learning experience (team level), that answers to the question: how can we as a team shape the future in our vision?
- A collective 'atlas of the future' that answers to the question (cohort level): what is our collective way forward? This can be an artwork, podcast, movie, 'open format'

method of assessment and assessment criteria:

This course uses holistic

assessment: students reflect on their learning process, intentions and operationalization of their project and on the extent to which they can demonstrate the awareness, understanding and practice of the intended learning outcomes.

There is one high-stake decision in the end (pass-fail), for which students collect evidence and data throughout the course. The student is in constant conversation with the teachers and is encouraged to share their process. Students evaluate their own process and receive peer-feedback on the development of their learning experience and on the collaboration process.

The high-stake decision happens in conversation with the student during 'learning dialogues,' which happen after the learning experience.

Programme breakdown			
type of activities:	workshops, tutor meetings, student-led learning experiences	contact hours*:	25-35 hours
		hours of self-study:	59-105 hours
		*±3 hours per workshop (we advice 5-8 workhops). ±1 hour per tutor meeting (we advice 4-5 meetings). ±6 hours final event.	
Session 1: Collaborative Advantages (3 hours)	Introduction on the course and each other. Focus on team building: what is 'good' collaboration across disciplines and diverse personal narratives? How will we collaborate constructively?		
Session 2: Framing the Future (3 hours)	Students create concept maps around their preferred topic and break down systemic barriers, identify opportunities for change. Students formulate a 'design-oriented research questions' to guide their thematic research. Students critically assess the current educational system and their own place in it, using personal experience and theoretical tools. Students start developing a vision for their desired future of education.		
Learning dialogue (1 hour)	Every student team has a dialogue with their tutor about their group process and progress on their personal learning objectives.		
Session 3: Making Visions Tangible (3 hours)	Students deepen the learning vision and situate the vision within a contemporary (academic) framework. Through visual language, the teams develop a vision statement, identify their target audience and objectives for their experience. They continue		

	with shaping and refining the contours of their future and extract design requirements. By mixing up students in carousel exercises, the groups integrate new perspectives from their peers and iterate on their ideas.
Learning dialogue (1 hour)	Every student team has a dialogue with their tutor about their group process and progress on their personal learning objectives.
Session 4: Translating Vision into Immersive Design (3 hours)	Through a series of creative exercises, students explore and ideate a variety of innovative learning activities. They start prototyping their ideas and evaluate which spaces and places can be supportive or enabling. By working with the Burns Model of Ecological Design, students integrate different components of learning design, making explicit the relevance of their proposal, the different perspectives, content and methods, and how they are connected.
Learning dialogue (1 hour)	Every student team has a dialogue with their tutor about their group process and progress on their personal learning objectives.
Session 5: Planning and Organization– Weaving Place and Time (3 hours)	Students weave the different activities into one holistic experience, thinking about timing and flow. They are introduced to setting, holding and landing the learning arch (inspired by KAOSPILOT).

Session 6: Didactics and Fostering Reflective Capacity (3 hours)	Students are introduced to instructional design, practice with difficult situations ad moderation. This session also reserves plenty time to unpack the meaning and importance of reflection in learning.
Learning dialogue (1 hour)	Every student team has a dialogue with their tutor about their group process and progress on their personal learning objectives.
“Learning Conference/ Presentation event” (6 hours)	In a - preferably open access - event, students host their learning experience to the community. Students can invite their target audience, which can be any chosen demographic. Students also attend each other’s experiences to provide in depth peer feedback.
Learning dialogue (1 hour)	Every student team has a dialogue with their tutor about their group process and progress on their personal learning objectives.
Session 7: systemic evaluation and contextualizing (3 hours)	Students reflect on an individual, team and group level on the process, end results and implications for the future. As a collective, the students create an artwork that represents their process, the emergent learning outcomes and the intentions of their projects.

student preparation and course literature:	<p>Students have to continuously work on their theoretical framework, learning vision, learning design and teacher manual.</p> <ul style="list-style-type: none"> • Cingel Bodinet, J. (2016). Pedagogies of the futures: Shifting the educational paradigms. <i>European Journal of Futures Research</i>, 4(1), 1-11. • Martin, R. J., & Van Gunten, D. M. (2002). Reflected identities: Applying positionality and multicultural social reconstructionism in teacher education. <i>Journal of Teacher Education</i>, 53(1), 44-54. • Burns, H. (2011). Teaching for transformation:(Re) Designing sustainability courses based on ecological principles. <i>Journal of Sustainability Education</i>. • Jentink, R., & Arthur, M (2019). COMPOS(T)ING NEW MATERIAL EDUCATION. • Robinson, K. (2010). Changing education paradigms. Ted Talk by Sir Ken Robinson. • If applicable: Plan academic consults with professors/ teachers to deepen the academic knowledge.
further information:	<p>This course is highly adaptable to different educational contexts. Both the duration, intensity, learning activities and teacher involvement can vary. We hosted this course 6 times from 2020 to 2022 and found that the main ingredients can stay the same, but the recipe can differ every time, depending on the needs of the students and faculty.</p>

module:		<h2>Ecology- Data visualisation</h2>	
by:	Zsófi Szonja Illés	course duration:	12 weeks
		ects:	5
		study workload:	140 hours
		contact hours:	45 hours
		hours of self-study:	95 hours
course outline:		<p>The Balatorium is a research and education project within the VEB2023 (Veszprém-Balaton 2023 European Capital of Culture) programme series, which aims to raise awareness among 14-18 year olds about climate change, land use and other ecological challenges affecting Lake Balaton.</p> <p>During the two semester course, students will design and implement an alternative educational site. During the course we will attempt to creatively visualise data from the Lake Balaton ecosystem using the methodology and tools of data visualisation. The data will come from different ecological research institutes, so we will be able to work with real authentic and detailed data. Participants will learn about the data visualisation methodological tools that</p>	
		<p>will enable them to create effective data visualisations from the data available. This will provide them with methodological knowledge independent of the data, which they will be able to apply to their own projects and data in the future. They will also learn about the properties of the specific schemas that are the most commonly used forms of data visualisation, thus developing not only methodological but also tool usage skills. In addition to the theoretical grounding, it is necessary to develop the approach to be acquired in practical sessions using business standard tools such as Gephi, Tableau or PowerBI. Students will also have the opportunity to write their own code to create custom data visualisations.</p>	



<p>In addition to data visualisation, the aim is to provide an overview of the complex system that can be defined as the ecological unit of Lake Balaton. This understanding will be supported by the relationship and data resources available</p>		<p>from the Balatorium project. The course will provide students with methodologies and tools to help them navigate the world of data visualisation. They will also learn how to think about data collection, processing and storage.</p>	
course content:		<p>Students will be introduced to the data visualisation methodology, the foundations of which were laid by Jacques Bertin. The methodology shows, through the transformation steps, how to visualize data from available data. Students will be able to interpret a problem using complex data visualization concepts, solve it in a team work and present the results.</p> <p>Topics to be covered:</p> <ul style="list-style-type: none"> • Ecological situation and problems of Lake Balaton. • Data visualisation, • Network visualisations, • Map visualisations 	
deliverables/outcomes:		<p>The students will provide a practical demonstration where they proved that they acquired the necessary skills</p>	
learning outcomes:		<p>Knowledge:</p> <ul style="list-style-type: none"> • Knowledge of some research, development and innovation methods, models and theories in the field of art and design; • Detailed knowledge of the main elements, tools and steps of at least one RDI method relevant to their field of expertise. 	

learning outcomes:**Skills:**

- Recognises situations where RDI tools and methods need to be applied;
- Plans and evaluates a given RDI process;
- Has practical experience in applying at least one method;
- Communicates the process, results, novelty and added value of the RDI activity in a comprehensible and professional manner;

Attitude:

- Strive to carry out their professional work in an experimental, exploratory, innovative and innovative way;
- Are open to consciously applying RDI methods and tools in their creative and design activities;
- Strive to carry out their RDI activities in a conscious and planned way

student preparation and course literature:**Compulsory:**

- Barabási Albert – László (2016): Network Science, Cambridge University Press, Cambridge. <http://networksciencebook.com/chapter/1>

Recommended:

- Tufte, E.R.: The Visual Display of Quantitative Information. Graphics Press, 2001
<https://www.edwardtufte.com/tufte/index>
- Cole, N.K.: Storytelling with data. Wiley 2015
- Cole, N.K.: Storytelling with data. Let's practice. Wiley 2019
- Cairo, Alberto: How Charts Lie, W.W. Norton, 2019
- Bertin, Jacques: Semiology of Graphics, ESRI, 2010
- Juuso Koponen, Jonatan Hildén: Data visualization handbook, Aalto University Press, 2019

method of assessment and assessment criteria:***Exam method:***

Practical demonstration

Additional mode to be applied for checking the relevant knowledge:

- Requirements to be fulfilled: prepare a data visualisation
- Presentation of the completed material in the form of a presentation
- Criteria for assessment: application of methodology, creativity and success of application

Components of the grade:

- Individual work (65%)
- Presentation (35%)

module:	Future Forecasting & Complexity		
by:	Ágnes Karolina Bakk	course duration:	12 weeks
		ects:	5
		study workload:	140 hours
		contact hours:	45 hours
		hours of self-study:	95 hours
course outline:	<p>In spring 2020 we realized that the fast changes require fast and complex adaptation strategies on our side. These complex strategies have to offer answers to such processes like climate change. Timothy Morton calls these as hyperobjects - and during the course, we will learn more about how complex phenomena have multiple effects. Based on this we will look at how many changing factors are in our lives, which one can be affected by us, and which one of these can be changed by us. During the course we will learn "forecasting" techniques and future-oriented tendencies: this will help to better plan and implement design processes and this way to give more complex answers to current issues. We will learn how to read signs, how to interpret trends and how to apply these to our design methods. The techniques acquired during the course can be deployed on several media and it also helps creators to offer more reflexive and self-relied answers. The course relies on elements and techniques of speculative design, strategic foresight and design fiction. The participants will work individually on specific subjects that can help their later work as well. The course is also using methods from Institute for the Future.</p>		

course content:	Individual research: establishing topic, identifying drivers and trends, historical mapping, forecasting or backcasting; the four future types; writing assignment.
deliverables/outcomes:	A deep insight document (cca 15 000 characters) that contains the topic, identifies the signs and drivers, describes the trends, maps the historical aspect and describes four future types.
learning outcomes:	<p>Knowledge:</p> <ul style="list-style-type: none"> • Learning the current design strategies • Learning how to assess a specific possible future and its environment • Understanding what are the signs and drivers and how to use them in design processes <p>Skills:</p> <ul style="list-style-type: none"> • Can develop specific creative strategies that can be deployed later in professional work • Learn how to create adaptive strategies • Identifies changes very fast <p>Attitude:</p> <ul style="list-style-type: none"> • Open to changes • Adaptive personality
method of assessment and assessment criteria:	Interaction in the classes; flexibility with the topic; homework preparation; final output (style and content)

module:	Mapping the Technosphere		
by:	Sami Hammana	course duration:	10 weeks
		ects:	5
		study workload:	140 hours
		contact hours:	35 hours
		hours of self-study:	105 hours
course outline:	<p>Mapping the Technosphere relies upon the contemporary phenomena of an additional and man-made 'sphere' that invasively lodges itself within the ecological spheres on Earth. Coined by John H. Milsum, the technosphere is used to describe the totality of all technological infrastructures on earth. An interlinked but dispersed entangled web of communication systems, colonial logistics, high speed financial gambling, etc.</p> <p>This odd and seemingly ungraspable phenomenon of the technosphere will be the protagonist through which this educational module unfolds.</p>	<p>Furthermore, its condition of being simultaneously pervasive and elusive brings the importance of mapping. The need to be able to understand and image it. This will be the main aim in the module.</p> <p>Mapping the Technosphere is intrinsically a transdisciplinary challenge that relies upon a large variety of aesthetic and methodological skills present within different disciplines. This diversity will be sought within the teaching team and student group. Students will be asked to reassess their position towards disciplinary approaches with the aim to collectively map the conditions of the technosphere.</p>	

assignment to students:	The assignment to the students will be a collective project that they would have to work on: Map the technosphere collectively. This can be a combination of visual and verbal images. Furthermore, it can be a combination of various scales of mapping. For example, local instantiations of its presence while also showing its densest positions on the globe.
learning outcomes:	<p>Knowledge:</p> <ul style="list-style-type: none"> • The students have the ability to grasp a multitude of transdisciplinary mapping methodologies. • The students will be taught to fully understand the historical development of the phenomenon of the technosphere and its potential future conditions. • Theories of transdisciplinary collaborations will be unpacked and extensively studied. <p>Skills:</p> <ul style="list-style-type: none"> • Multi-scalar thinking. • Disambiguating language. • Transdisciplinary methods of imaging. <p>Attitude:</p> <ul style="list-style-type: none"> • Collaborative approaches. • Being able to revise commitments. • Future-oriented thinking and making.

deliverables/outcomes:	<p>There will be two main outputs:</p> <p>(1). The first output will be a collective image, or a map really, of the technosphere. This aesthetic output will be worked on and developed by the entire students group.</p> <p>(2). The second output will be an individual document theorising and reflecting upon the student's contribution. The focus of this document will be on the mapping methods they used while also reflecting upon their collaborative skills.</p> <p>Document word count: 1500 words max.</p>
method of assessment and assessment criteria:	<p>The assessment, and its accompanying criteria differ for the two outputs.</p> <p>(1). For the collective map:</p> <ul style="list-style-type: none"> You actively engage and contribute to the collective work with a convivial and collaborative attitude. You research and experiment with applying different transdisciplinary imaging methods. You iterate your contributions by developing at least 3 prototype images. You are able to conceptually contextualise your individual contribution within the collective map. <p>(2). For the individual document:</p> <ul style="list-style-type: none"> You reflect critically on the results and the chosen research methods. You use min. relevant sources (min. 5 texts) and research of other experts. You independently carry out a research cycle with a clear thread of inquiry, design, reflection, and conclusion. You communicate the process and the results of your research in a structured and traceable way.

Programme breakdown		
Contamination: Technospheric Transdisciplinarity	contact hours:	3 hours
	hours of self-study:	4 hours
	total:	7 hours
content:	An indepth lecture tracing the history of contamination within ecologies.	learning objectives: To understand the Technosphere and the contaminating conditions that constructed it.
itinerary:	1 hour:	Lecture bringing up key events that have formed the Technosphere.
	1 hour:	Break out session where questions, remarks and concerns are discussed regarding the Technosphere.
	0,5 hour:	Break
	0,5 hour:	Break out groups presenting their findings which will be collectively discussed with the larger group as a result
student preparation and course literature:		Students read the text <i>Technosphere, Biosphere, Sociosphere</i> by J.H Milsum: https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5214690

Data Visualization Aphorisms		contact hours:	3 hours
		hours of self-study:	4 hours
		total:	7 hours
content:	Approaching the notion of data visualisation through the medium of experimental writing by Sami Hammana.	learning objectives:	We will follow Benjamin Bratton's evocative writing style of reminding us that data visualizations occur outside of the fields of metrics. By doing so, this workshop proposes to think, write and present something very similar. The attempt is to evade the deadlock of metrics when it comes to data visualizations by writing scenarios that ought to be read as such, but aren't interpreted as such
itinerary:	0,5 hours:	Introducing data visualization in relation to climate change.	
	0,5 hours:	A short talk on Benjamin Bratton's argument of a need for a wider literacy when it comes to visualizing data.	
	0,5 hours:	Break	
	1,5 hours:	Experimental writing workshop where we will write data visualizations.	
student preparation and course literature:		Students read Bratton, B. The Stack: on Software and Sovereignty. 2016. 302. print	

module:	Tangible maths, Be STEAM!		
by:	Dóra Szentandrás	course duration:	12 weeks
		ects:	5
		study workload:	140 hours
		contact hours:	45 hours
		hours of self-study:	95 hours
course outline:	<p>During the “Be STEAM! / Tangible Mathematics” course, in collaboration with BUDAPEST SCHOOL, STEAM teaching methodology research will be used to design and develop a series of tasks for public education that provide material visualisations of mathematical concepts and relationships for young school children. During the course, students will work in teams with the students from BUDAPEST SCHOOL and will jointly participate in project development. Part of the assignment will be to hold a rehearsal session for school children, where they will be able to create the objects after having acquired the necessary background knowledge. Creative, collaborative problem-solving competences and innovative solutions are at the heart of 21st century education, and new tools and methodologies are needed to</p> <p>teach them. The “Be STEAM!” project aims to develop an experiential education methodology based on fusion knowledge sharing that can be integrated into mainstream public education and is freely accessible to all, opening up new, progressive avenues for modern skill development, both in terms of content and aesthetics, complementing the Science - Technology - Engineering - Math (STEM) methodology with the Art & Craft & Design (A) domain. The focus themes of the STEAM programme link different fields of knowledge in both theory and practice in an experiential and horizontal way, showing the possibilities of combining manual and digital design through the development of a functional object (kit), skill-building or educational demonstration tool.</p>		

course content:	<p>Throughout the course, teams will build a fictitious city district using and visualising Fibonacci numbers and gold metrication with design thinking methodology. The result of the course is the realisation of a Fi City of neighbourhoods. Topics covered during this course are:</p> <ul style="list-style-type: none"> • Learning the primary school mathematics curriculum for grades 5-6 • Fibonacci numbers • Golden ratio • STEAM experiential education methodology • Mapping of subject modules that can be linked to the STEAM activity, with particular attention to visual culture, technology, life skills and practical training. • Design Thinking • Digital and analogue object creation techniques and technologies • Teaching, workshop management practice for young students • Presentation and documentation techniques
deliverables/outcomes:	The students will provide a practical demonstration where they proved that they acquired the necessary skills
learning outcomes:	<p>Knowledge:</p> <ul style="list-style-type: none"> • Familiarity with some research, development and innovation methods, models and theories in the field of art and design; • Has detailed knowledge of the main elements, tools and steps of at least one R&I method relevant to his/her field of expertise <p>Skills:</p> <ul style="list-style-type: none"> • Identify situations where RDI tools and methods need to be applied; • Plan and evaluate a given RDI process; • Has practical experience in applying at least one method; • Communicates the process, results, novelty and added value of the RDI activity he/she carries out in an understandable and professional manner



Attitude:

- Strive to carry out their professional work in an experimental, exploratory, innovative and innovative way;
- Are open to consciously applying RDI methods and tools in their creative and design activities;
- Strive to carry out their RDI activities in a conscious and planned way

student preparation and course literature:

Reading list:

- CHRISTOPHER B. WILLIAMS, CAROLYN CONNER SEEPERSAD (2012): Design for Additive Manufacturing Curriculum: A Problem- and Project-Based Approach. sffsymposium.engr.utexas.edu/Manuscripts/2012/2012-05-Williams.pdf
- ELAINE J. HOM (2014): What is STEM Education? livescience.com/43296-what-is-stem-education.html
- ERIN BUEHLER, NIARA COMRIE, MEGAN HOFMANN, SAMANTHA McDONALD, AMY HURST (2016): Investigating the Implications of 3D Printing in Special Education. megankhofmann.com/uploads/5/6/7/3/56734939/a11-buehler.pdf
- FRANK W. LIOU, MING C. LEU, AND ROBERT G. LANDERS (2012): Interactions of an Additive Manufacturing Program with Society. docplayer.net/18680316-Interactions-of-an-additive-manufacturing-program-with-society-frank-w-liou-ming-c-leu-and-robert-g-landers.html
- JAMISON GO, A. JOHN HART (2016): A framework for teaching the fundamentals of additive manufacturing and enabling rapid innovation. In. Additive Manufacturing 2016. ac.els-cdn.com/S2214860416300367/1-s2.0-S2214860416300367-main.pdf?_tid=5eeb325c-4bec-11e8-b29a-00000aacb362&acdnat=1525034102_813f771d3120202f7a2bb876652abe9c
- JENNIFER LOY(2014): eLearning and eMaking: 3D Printing Blurring the Digital and the Physical,. In: Education Sciences.4. 108–121. <https://files.eric.ed.gov/fulltext/EJ1117874.pdf>
- JOSEPH FLYNT: A detailed history of 3d printing <http://3dinsider.com/3d-printing-history/>

method of assessment and assessment criteria:*Exam method:*

Practical demonstration:

- Case study (research paper)
- Operational model
- STEAM session process
- Manual for young students and teachers
- Presentation of the potential uses and marketability of the course outcome product
- End of term presentation and documentation

Components of the grade:

- Design quality (50%)
- Quality of implementation (30%)
- Quality of documentation (10%)
- Presentation quality (10%)

module:	Trans/actions		
by:	Sami Hammana Ágnes Karolina Bakk Dániel Barcza Roger Teeuwen	course duration:	10 weeks
		ects:	5
		study workload:	140 hours
		contact hours:	35 hours
		hours of self-study:	105 hours
course outline:	<p>The module 'Trans/actions' is concocted by four colleagues from two different institutions. The workshop aims to think—and make—through a process of transdisciplinary 'transactions'. The core aim of this workshop is simple: to produce and share different methods that could improve collaborations that aim to move beyond the confinements of disciplinary borders.</p> <p>'Trans/actions' is an educational module that proposes the following structure: four groups of four participants, wherein each group is led by one of the four educators. In these smaller groups, the participants will work on transacting different understandings of transdisciplinary collaborations through several exercises.</p>		
assignment to students:	<p>The assignment for the this education module has a collective deliverable: <i>Produce a repository (website, book, etc.) of different transdisciplinary methods that help to rethink the borders of disciplines. Contextualise these methods by their origin, their discourse and their application. This repository ought to be organised as a resource for transdisciplinary projects.</i></p>		
deliverables/outcomes:	A transdisciplinary repository for methods.		

learning outcomes:
<p>Knowledge:</p> <ul style="list-style-type: none"> To understand the conditions of transdisciplinary collaborations. Transdisciplinary methodological literacy: To be able to juxtapose and compare methods. To grasp the moments of when to apply what method. <p>Skills:</p> <ul style="list-style-type: none"> Sharp analytical skills in researching methods. Curatorial skills in compiling a large amount of methods. To be able to apply transdisciplinary skills. <p>Attitude:</p> <ul style="list-style-type: none"> A diplomatic attitude in discerning transdisciplinary methods. A collaborative approach in compiling the collective assignment. A progressive outlook on the future of disciplines.
method of assessment and assessment criteria:
<p>The assessment criteria that will be used in evaluating the collective repository ought to be inline with the following points:</p> <ul style="list-style-type: none"> You research and map a vast array of transdisciplinary methods. You research their origins and their current states. You reflect critically on the results and the chosen research methods. You use min. relevant sources (min. 5 texts) and research of other experts. You are able to place and conceptualise the chosen methods in relation to the methods articulated by your classmates. You communicate the process and the results of your research in a structured and traceable way. You are able to collectively deliver a well edited and well designed method repository.

Programme breakdown		
Making Self(s): AutoBioFiction	contact hours:	3 hours
	hours of self-study:	4 hours
	total:	7 hours
content:	The primary aim of this exercise is to get to know each other. Its underlying aim stems from the desire to rethink the mundane and recurring task of writing an auto-bio. Participants are to introduce themselves by way of fictionalising the process of writing (about) the Self.	learning objectives: To be able to reinvent the Self without a reliance on the discipline that the students are involved with at that point.
itinerary:	1 hour:	A short talk on personification and avatars as a way of rewriting the Self.
	0,5 hour:	Break
	0,5 hour:	Individual AutoBioFiction exercise where the students write a fiction bio about themselves.
	0,5 hour:	A collective sharing moment of our individual fictionalised bio's.
student preparation and course literature:		Students read the text <i>Gregory Ulmer - Heuristics: The Logic of Invention (1994)</i>

Making Words: Neologisms	contact hours:	3 hours
	hours of self-study:	4 hours
	total:	7 hours
content:	The aim of this exercise is to develop new words ('neo = new' + 'logos + words'), by way of seeing language as consisting of material 'blocks'. These material blocks, whether they are root-words, prefixes, suffixes, etc., are rearranged to draw different/ new insights. The participants are asked to develop neologisms in relation to any project.	learning objectives: To be able to invent new words that might give insights into conditions that haven't been described by language yet.
itinerary:	1 hour:	A lecture on the use of neologisms and their combinatory potential in inventing language.
	0,5 hours:	Q&A where examples are brought up
	0,5 hours:	Break
	1,5 hours:	Exercise where each student develops at least 10 neologisms that relate to their individual research interests.
student preparation and course literature:		Students read More Brilliant Than The Sun - Kodwo Eshun (1998)

module:		Transgressing/Assessing	
by:	Tamara de Groot, MPhil		course duration: 8-10 weeks
			ects: 2,5
			study workload: 70 hours
			contact hours: 15 hours
			hours of self-study: 55 hours
course outline:			
<p>This course is offered as a supporting trajectory within another transdisciplinary course or minor (or parallel to another course), to help students dive into the world of assessment to develop their own assessment trajectory and increase their assessment literacy and pedagogical intelligence. Assessment is often the site where innovation is most difficult to implement, because of the inherent contradictions of assessment in higher education: on the one hand, assessment is meant to measure and test students' achievement with certification as its aim (assessment of learning), while on the other hand assessment is meant to support and enhance students' learning processes and increase the quality of learning (assessment for learning). Particularly in transdisciplinary</p>		<p>educational settings across arts and sciences, this tension is accompanied by the difficulty of assessing different skills and abilities across a variety of knowledge domains. This course addresses these challenges by working closely with students to develop alternative ways of assessing in the transdisciplinary classroom. The aim is not so much to arrive at a perfect solution to the assessment paradox, but to allow teachers and students to 'hold the tension' of assessment together, and learn how to work from that position. Students are given the theoretical knowledge, tools and tutor and peer support to</p> <p>1. critically analyse how they have been assessed in their educational careers so far, 2. on what theories and ideologies these assessment practices are based, 3. research what alternatives exist, and 4. re-imagine and design their own assessment approach (either collectively or individually) in collaboration with the tutor team. The aim of this supporting course is to focus on the tensions that assessment in transdisciplinary education settings surfaces, and to increase students' agency with regards to their own assessment.</p>	

<p>alternatives exist, and 4. re-imagine and design their own assessment approach (either collectively or individually) in collaboration with the tutor team. The aim of this supporting course is to focus on the tensions that assessment in transdisciplinary education settings surfaces, and to increase students' agency with regards to their own assessment.</p>	
assignment to students:	<p>During the first half of the course students create an elaborate and well-researched proposal for their own assessment trajectory. In the second half, this is implemented in relation to the parallel course, and reflected upon at its conclusion.</p>
learning outcomes:	<p>At the end of the course, students:</p> <ul style="list-style-type: none"> • are able to critically analyse how they have been assessed in their educational careers; • have an overview of literature on assessment practices in higher education; • are able to research alternative and innovative assessment practices independently; • are able to construct their own assessment approach, supported by relevant literature; • are able to implement their assessment approach in collaboration with their tutors • can reflect in-depth on the development and implementation process of their own assessment.
deliverables/outcomes:	<p>1. Assessment method (and, if applicable, criteria) See example of the Assessment form at the end of the module.</p> <p>2. Reflection on implementation In their reflection, the student should at least answer the following questions:</p> <ul style="list-style-type: none"> • What are your experiences with assessment (in higher education and before)?

<ul style="list-style-type: none"> • How can you place these experiences in a larger framework of dominant assessment policies? • What innovations in assessment appeal to you, and why? • What concepts, ideas or other inspirations underpin your own assessment method? • What was it like to develop your own assessment method, and be assessed according to it? • What would you improve or change with regards to your method and the implementation? 	
method of assessment and assessment criteria:	For the assessment method and criteria to receive a greenlight to be implemented they have to adhere to the following criteria: <ul style="list-style-type: none"> • An assessment method that is well argued and supported by (academic) literature or other relevant sources • The assessment should be realistic in terms of time investment by the student as well as the assessors • Clear guidelines and well formulated criteria/rubrics (latter if applicable) for the assessors <p>In case the assessment method is deemed unsuitable, insufficiently supported or developed, the student will be assessed according to the default assessment scheme of the parallel course.</p> <p>Assessment of reflection on implementation:</p> <p>In their reflection, students:</p> <ul style="list-style-type: none"> • Show an awareness of how assessment is done and framed in the context of higher education; • Have researched alternative assessment approaches; • Demonstrate the ability to apply concepts, ideas and inspirations to create their own assessment method; • Are able to critically reflect on their method and the implementation.

Programme breakdown		
Workshop I: What is Assessment?	contact hours:	3 hours
	hours of self-study:	5 hours
	total:	8 hours
content:	First exploration of students' experiences with, and understandings of, assessment	learning objectives: After this workshop, students have started to shape an idea of how assessment has influenced their learning throughout their educational history, and know of several definitions of assessment.
itinerary:	1 hour:	Students present previous experiences with assessment in their own studies
	1 hour:	Discussion of differences between (experiences with) assessment approaches in different disciplines and studies
	1 hour:	Students research possible (academic) definitions of assessment + discuss
student preparation and course literature:		Students reflect on their previous experiences with assessment, prepare a short presentation. Watch: Assessment and Attainment in Art and Design Education; Dr Emily Salines Interviews Professor Susan Orr. https://vimeo.com/458640666

Workshop II: Situating Assessment Practices		contact hours:	3 hours
		hours of self-study:	5 hours
		total:	8 hours
content:	Close-reading and discussion.	learning objectives:	Understand the larger mechanisms that influence how assessment is framed and practiced in higher education.
itinerary:	1,5 hours:	Close read the introduction to Halberstam's <i>The Queer Art of Failure</i>	
	1,5 hours:	Discuss findings from the other texts and explore how assessment is currently framed in higher education	
student preparation and course literature:		Reading list:	
<ul style="list-style-type: none"> • Halberstam, Jack (2011). <i>The Queer Art of Failure</i>. Durham: Duke University Press. Introduction • Orr, Suzan & Shreeve, Alison (2018). <i>Art and Design Pedagogy in Higher Education: Knowledge, Values and Ambiguity in the Creative Curriculum</i>. Routledge. Chapter 8: Art school evaluation: process, product and person • Boud, David & Falchikov, Nancy (2007). <i>Rethinking Assessment in Higher Education. Learning for the Longer Term</i>. Routledge. Introduction 			

Workshop III: Alternative Assessment Approaches		contact hours:	3 hours
		hours of self-study:	5 hours
		total:	8 hours
content:	Exploration and mapping of alternative assessment approaches	learning objectives:	"
itinerary:	1 hour:	Discuss the introduction of Innovative Assessment in Higher Education and students bring in their findings from the chapters they read	
	2 hours:	Students work in small groups to map different alternatives to traditional assessment, and present these to the entire group.	
student preparation and course literature:		Reading list:	
<ul style="list-style-type: none"> • Bryan, C., & Clegg, K. (Eds.). (2019). <i>Innovative Assessment in Higher Education: A Handbook for Academic Practitioners (2nd ed.)</i>. Routledge. https://doi.org/10.4324/9780429506857 read: introduction + two chapters of own choosing • Boud, David & Falchikov, Nancy (2007). <i>Rethinking Assessment in Higher Education. Learning for the Longer Term</i>. Routledge. read: two chapters of own choosing 			

Workshop IV: Developing your own assessment method I		contact hours:	3 hours
		hours of self-study:	5 hours
		total:	8 hours
content:	How to create your own assessment method.	learning objectives:	Get started on developing a personalized assessment method.
itinerary:	1 hour:	Discuss how filling in the assessment form went, what difficulties students encountered and what they need help with	
	2 hours:	Group students with different difficulties together, and offer guidance in filling out the assessment forms in more detail	
student preparation and course literature:		Fill out assessment form (see form at the end of this module)	

Workshop IV: Developing your own assessment method II		contact hours:	3 hours
		hours of self-study:	5 hours
		total:	8 hours
content:	Feedback on assessment form	learning objectives:	Continue to improve the assessment method
itinerary:	30 minutes per group:	In the small groups that were formed, give feedback on the assessment form.	
	remaining time:	Students continue to work on the assessment form, and can ask each other questions. Convene with the entire group at the end of the class to discuss general and urgent questions.	
student preparation and course literature:		Students send in their improved assessment forms before the class.	

Individual feedback talks		contact hours:	1 hours
		hours of self-study:	14 hours
		total:	15 hours
content:	Feedback talks	learning objectives:	Learn how to fine-tune their approach
itinerary:	45 min to 1 hour per student:	Feedback on assessment form	
student preparation and course literature:		Students send in final draft of assessment form before the class	

attachment:

Assessment Form

Learning aims	
What is the main thing you want to learn during the course? <i>(max. 100 words)</i>	
List your specific sub-learning aims. These aims are a break-down of the main thing that you want to learn. You can use the general learning aims to guide you. (one sentence per aim, max. 9 aims)	
How will you show what you learned during the course? <i>(For example: presentation, a publication, script, reflection, performance. We recommend everyone to include a reflection on the learning process).</i>	
Assessment	
Description of assessment method <i>(Add concepts, literature and other sources that inform and justify your method)</i>	
Who would you like to assess you?	

On what aspects do you want your assessors to give feedback/assess you? <i>(This needs to be a specific list of criteria or questions that you give to your assessors as a guide.)</i>	
What would you like the assessment/evaluation moment to look like? <i>(E.g. a conversation, written feedback, a jury etc.)</i>	
What would you like the assessment to provide you with? <i>(E.g. extensive feedback, a grade, tips on how to continue learning, etc.)</i>	
At the end of the minor we are required to give you a numerical grade. How would you like your assessors to arrive at this grade?	