

Reimagining Education for a Sustainable Digital Age: A Speculative Fiction Journey for Swedish Higher Education

Introduction

Education is undergoing a significant transformation in the digital age, as technological advancements and environmental concerns continue to shape the way we learn and teach. As we move towards a more sustainable and inclusive future, it is essential to reimagine education and explore innovative approaches to education that can respond to the needs of students, teachers, and society as a whole. This report deals with the current state of sustainable digital transformation in the Swedish higher education context and aims to explore the potential ways in which technology and sustainability can work together to transform the future of higher education in Sweden. This effort is underpinned by the belief that sustainable efforts in the present can help maintain and advance the quality of life, and education, in the future.

More specifically, this report will present a suggested speculative fiction project that envisions the future of higher education in Sweden through the lens of sustainability and digital innovation. We will explore how higher education can respond to the challenges of sustainability and climate change, while also leveraging the opportunities presented by emerging technologies. The report will delve into various aspects of education, including pedagogy, curriculum, and infrastructure, to offer a holistic view of the potential transformations in higher education. Ultimately, this report aims to inspire readers to think creatively about the future of education and to consider new approaches that can help us build a more sustainable and equitable world. Although this paper might use the example of artificial intelligence (AI) as one of the most impactful emerging digital technologies, it is not implied that other factors cannot be as detrimental to building a sustainable future in higher education.

Suggested project for sustainability measures in higher education

The suggested project, called "The Digital Campus," helps envision a future where higher education is fully integrated with digital technology, creating a more sustainable and accessible learning environment. The project proposes the creation of a virtual campus that would allow students to attend classes, collaborate with peers, and access resources from anywhere in the world. This would not only reduce the carbon footprint of traditional campus-based education but also make education more accessible to students who may not be able to travel to a physical campus.

The idea of a Digital Campus could incorporate cutting-edge technologies such as artificial intelligence and virtual reality to enhance the learning experience. For instance, AI-powered chatbots could provide personalized support to students, while virtual reality simulations could allow students to explore complex concepts in a more

immersive and engaging way. It is assumed that this would not only improve the quality of education but also make it more engaging and enjoyable for students.

This project would be addressed to students, teachers, and other staff members of participating universities, who would be asked to envision a future of non-sustainable university practices in the future. These imaginaries would take the form of short stories, also called speculative fictions, and would reveal the participants' beliefs around potential risks of over- or under-utilising digital technologies in the future, through the lens of sustainability. In a subsequent phase of the project, the same or different participants will be called to reflect on these 'pessimistic' narratives and respond to them by writing their revamped speculative versions of positive digital futures, in a reality where universities have adopted digital sustainability practices. In turn, these positive narrative will reveal both the participants' hopes about the future, as well as surface actionable items of practice in the field of digital transformation and sustainability.

However, the Digital Campus is not just about technology. It also aims to create a more sustainable and equitable learning environment by promoting diversity and inclusion. The project envisages the creation of a national or even global network of students and educators, who would collaborate on projects and share knowledge across (institutional or national) borders. This would not only promote cultural exchange but also create a more diverse and inclusive learning environment when it comes to imagining a future which everyone is a part of.

The current state

Sweden has long focused on the opportunities that digitalisation can bring about both in the public and in the private sector, including higher education (Khisro, 2020; Ljungqvist & Sonesson, 2022). Ljungqvist & Sonesson (2022) investigated the Swedish Digitalization Commission's report 'For digitalization with the times' by using critical discourse analysis. They found that the document revolves around 5 main axes, including the construction of global change and national (digital) solutions, arguing through neoliberal master narratives, and recontextualizing teaching and learning, among others. Furthermore, they argued that the policy document views students as 'self-managing citizens' who are morally obliged to conform to market demands and reduces education to an automated infrastructure for lifelong learning. They concluded that the policy argumentation is characterized by a "coherent and reductionist neoliberal framing of education" (Ljungqvist & Sonesson, 2022). On a similar note, Cone & Moos (2022) argue for a better way to navigate "an increasingly blurred field of pedagogical interests" in a Nordic reality where corporate involvement in education is increasing, and sometimes is limiting the scope of experimentation with what the future could hold.

A review of the sustainable digitalisation policies applied by the 39 universities in Sweden (conducted by this author for the purposes of a report around sustainable digital solutions in Swedish higher education) revealed that many institutions combine sustainability and digitalisation efforts by, for example, incorporating sustainability and digitalisation as key concepts in the curricula of some of their courses, investigating the potential benefits of intelligence transport systems, as well as conducting research and disseminating findings around sustainable digitalisation in public debates. These findings reveal that Swedish universities are quite active in the efforts to transform higher education in a sustainable way; however, the project proposed above can help students and staff members be involved in these efforts in more meaningful ways too.

Potential changes it can bring about

The suggested project around the themes of sustainability and digital transformation in higher education aims to engage students and staff members in this transformation process, by asking them to imagine what the future holds and creating fiction narratives based on that. This project could revolutionize how people perceive learning, empower them to become active participants in their own knowledge, and foster a spirit of inclusion, diversity, and representation at the university and beyond. Additionally, it could drive the creation of interactive learning environments, inspiring students to become innovators and knowledge-makers. Recognizing these potential rewards, this project could open up a plethora of prospects for the university, now and in the future.

The framework for AI readiness suggested by Holmström (2022) can be used for participants to get a sense of where we are at present and where we are headed when it comes to AI and digital transformation, for example. The speculative and imaginative nature of the suggested project can only benefit by a real-world evaluation of our current state of affairs in digitalisation in higher education, while allowing individuals to get creative and bring in their own experience and hopes.



Figure 1. Scorecard for AI readiness framework, as found in Holmström, 2022

Opportunities and risks

The participants of this project will effectively engage in a process of story- and worldbuilding through their narrative writing, therefore becoming agents of change themselves. A worldbuilding-based framework could also be used to guide this process. Fischer & Mehnert (2021) suggested the following four steps for such a framework approach:

1. Use images of the future as starting points to the worldbuilding phase,
2. The actual worldbuilding, which includes steps of “Invention, Completeness, and Creation” (Wolf, 2012)
3. Reflection, by evaluating the future reality depicted, as well as its underlying assumptions, and
4. Iteration, which includes potential revisions to the built worlds by experimenting with the story elements (or characters) and the relationships between them.

By participating in such worldbuilding exercises, students and staff members can also engage in building their own knowledge around the topics examined, and they can utilise critical questions they may come across or come up with in their daily lives as well.

At the same time, designing and applying a project such as the suggested one can entail certain risks. One of the biggest risks is the lack of clarity from the project team, for example. If the goals of the story-writing project are not set and communicated clearly enough to the participants, the outputs (stories written) might not be as useful to the project leaders as initially envisioned. Additionally, technical complexity can pose a threat to the overall effectiveness of asking students and staff members to write stories

about a digital sustainable future. In other words, they might not have the necessary technical expertise to fully understand the implications of their ideas and how these could be materialised or even conveyed through the written form. Finally, risks that can be identified by external bodies or stakeholders who may wish to act upon the changes proposed by the storytellers in this project could involve limited resources, time constraints, and overall implementation challenges. As a highly speculative and imaginative undertaking in nature, this project does not necessarily aim to come up with tangible solutions for stakeholders in Swedish universities, for example, as the ideas that will be presented might not be very cost-effective or barrier-free in their implementation. On the contrary, the project aims to help the participants understand the current situation and future prospect of university teaching, learning, and belonging, through stories of hope and challenges.

Resistance to change

Resistance to change is a common risk associated with projects aimed at imagining a sustainable digital future (Henriette et al., 2016; Scholkmann, 2021). For example, digital transformation can be met with resistance from individuals and organizations that may feel threatened by the proposed changes. This resistance can also arise from a lack of understanding, fear of the unknown, or vested interests in the current systems. In particular, the integration of sustainability principles in digital solutions can challenge established practices and power structures, creating resistance from stakeholders who may be used to operating in a less sustainable manner.

Resistance can manifest in different forms, ranging from passive resistance, such as reluctance to embrace new technology, to active resistance, such as lobbying against the implementation of proposed solutions. Resistance to change can impede progress in achieving sustainability goals, and project managers must be prepared to identify and address resistance at an early stage to ensure project success. Effective communication and stakeholder engagement can help to overcome resistance and facilitate the adoption of sustainable digital solutions. Additionally, engaging stakeholders in the project design process could help to address their concerns and ensure their buy-in, increasing the likelihood of successful implementation. Furthermore, it has been argued before that resistance can be “restructured” and actually become a resource for change (Ford et al., 2008). Even talking about change in a negative way, or with negative connotations, helps keep the topic ‘in play’ and relevant, giving more people the opportunity to weigh in and contribute their opinions. Resistance can therefore be used as necessary feedback and an indicator of engagement to the proposed changes (Ford et al., 2008; Wegener et al., 2004).

Conclusion

In conclusion, the *Digital Campus* is a speculative fiction project that aims to reimagine education for a sustainable digital age. By creating a campus that incorporates cutting-edge technologies and promotes diversity and inclusion, the project proposes a more accessible, engaging, and sustainable learning environment for Swedish higher education. While this project is in (and deals with) the realm of fiction, it provides a glimpse into what the future of education could look like and inspires us to think creatively about how we can transform education for the better.

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Appendix 1 – The peer review that I gave to George Yogo Odongo

- I liked the structure of your report and the variety of sources of information you brought in. However, I felt like there could be some more credible references/bibliography when it comes to the big corporations' frameworks and action plans (i.e., Google, Microsoft..)
- If I would comment on the structure of the report based on the requirements of the assignment, I would say that the time/progression perspective is only slightly adhered to, and that risk factors are not explored too much throughout the second part of the report, where the digital transformation agenda is developed.
- I found some of your insights about COVID-19 to be a bit repetitive across sections; as an alternative, you could maybe include a graphic or some statistics visually displayed and explained, to have a more lively presentation in some points.
- Maybe the focus on the preliminary remarks is a bit more than what the assignment asked for- I think there could be space for improvement in the ratio of information for the introductory remarks and the suggested solutions.
- Other than that, your report seems to be of a good quality, with accurate and appropriate language, and framed in the right way (specific context and information about it).

Appendix 2 – The peer review that I received from PARAG KHANNA

This work investigates how technology and sustainability may be able to change Swedish higher education in the future. It suggests a project named "The Digital Campus" to develop a more sustainable and open learning environment. By integrating cutting-edge technologies, picturing a future with non-sustainable university practices, and developing a national or international network of students and educators, the Digital Campus project seeks to establish a more sustainable and equitable learning environment.

In the project details, it was interesting to ask for non-sustainable practices in the future envisioned? What is the particular reason for this? This choice can be made more clear.

> I applaud the author for including the main emphasis of the report of the Swedish Digitalization Commission that focuses on national and global solutions, contextualizing teaching and learning, and using neoliberal master narratives to support its arguments.

The proposed project intends to include faculty members and students in sustainability and digital transformation in higher education, motivating them to become knowledge creators and innovators.

Although it is implicit, I suggest the author to directly link the proposed project with the report of the Digitalization Commission (how It would realize some of the objectives and what this project adds on top of that)

> It is mentioned that despite the fact that Swedish universities are actively working to alter higher education in a sustainable manner, a project that would involve students and staff members in this process might revolutionize education, give them more power, encourage inclusion, diversity, and representation, and open their eyes to new ideas.

I like the optimism behind the project and how well it has been presented. It can be helpful to add how some Swedish universities (or KTH) are currently engaging students and faculties in this regard.

> Risks exist, but participants will engage in a world-building and story-writing process to become change agents. Through stories of hope and difficulty, the project seeks to aid participants in understanding the current state and potential futures of university teaching, learning, and belonging. Projects that attempt to imagine a sustainable digital future frequently run the danger of encountering resistance to change. Stakeholder participation and effective communication can help overcome opposition and accelerate the adoption of sustainable digital solutions. Resistance is a sign of engagement and can be utilized as feedback.

I agree to potential risks due to resistance to change. I would suggest adding a short example of what a sample story would look like from a student perspective (or even a faculty).