



# Navigating the Future Project Report



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OF LONDON







CENTRE FOR ONLINE &  
DISTANCE EDUCATION

Navigating the Future Project Report





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## 1. Project Overview and Aims

The 'Navigating the Future' project commenced in September 2022, and the major activities contributing to the project took place in the period to the end of June 2023. The project is funded through the University of London's Centre for Online and Distance Education (CODE).

The 'Navigating the Future' project aims to inform future planning for the medium to longer term by identifying realistic scenarios now for the future of online and distance education in 2033 taking into consideration the global nature of University of London's provision.

- What are the opportunities and threats and what might the 'new normal' or the one after that look like for providers of online and distance education?
- What would be the implications for the University of London's own activities in planning for the future of online and distance education in order to remain cutting edge in its approaches?

The project uses foresight methodologies to address these questions and provide strategic insights that can help educators and planners to move towards a preferred scenario for future online and distance education provision.

Whilst there is a focus on activities of University of London and its federation member institutions, the study is also intended to be of interest and benefit to the wider community of online and distance education providers, and through a series of workshops we are seeking to draw on a wider and diverse range of expertise.

The project's foresight activities include:

- a literature review exploring relevant research evidence that point to key trends that will affect the future of online and distance education
- a process of stakeholder engagement conducted via face to face and virtual workshops, which lead to the development of four contrasting future scenarios

Use of foresight tools led to a focus on developing scenarios that contrasted positive and negative contribution of artificial intelligence (AI) in positive and negative geopolitical contexts. For each of the scenarios a wider range of identified drivers of change informed the narratives.

These outputs are intended to inform further work within the context of individual organisations (including University of London), where long terms strategies relevant to the particular organisations can be developed and implemented.

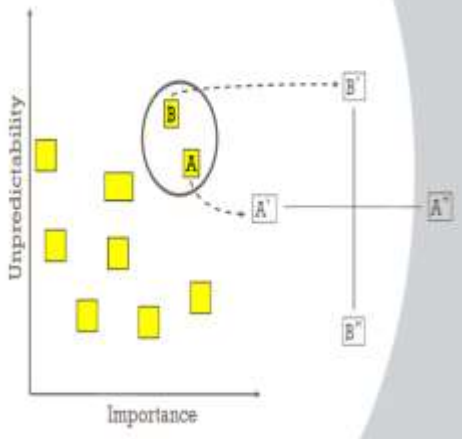
## 2. Report Coverage

This report covers the two face-to-face workshops and two virtual workshops held in January 2023, and an analysis of the outputs from these workshops. It also provides a summary of some of the headline findings from the comprehensive literature review which is available as a separate document.



### 3. The Foresight ‘Lite’ process used in this project

The foresight process involves using a range of tools<sup>1</sup> and when fully applied informs a lengthy process of stakeholder engagement and foresight activities. In this project, due to time and resource constraints, a ‘lite’ approach has been taken where the following foresight activities have been undertaken:

<ol style="list-style-type: none"> <li>1. Development of an up to date literature review that explores major thematic areas relevant to the future of online and distance education. This literature review represents a comprehensive update on the review undertaken by Tony Sheehan and the team involved in the Digital Educator Phase 1 project (also supported by CODE). The updated review includes coverage of three new thematic areas: digital poverty, sustainability and ethics</li> <li>2. A first round of face to face and virtual workshops (phase one) where participants from diverse stakeholder groups contributed inputs for the literature review and generated and prioritised a wide range of ‘Drivers of Change’ where the drivers have potential high impact and uncertainty in influencing the future of online and distance education.</li> <li>3. The drivers of change were then analysed by the project team, to identify two major drivers to provide the axes for a quadrant onto which four contrasting scenarios can be developed. The major drivers identified were AI and the geopolitical context.</li> </ol>	 <ol style="list-style-type: none"> <li>4. A second round of face to face and virtual workshops (phase two) then took place where ideas for the four contrasting scenarios were developed and the project team subsequently developed the narrative for each of the scenarios</li> <li>5. The literature review and this report were then completed to provide a resource for future foresight work to inform organisational strategies</li> </ol>
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### 4. Project Activities

The project activities are now described in more detail:

#### 4.1 Phase 1 Workshops

Face to face workshop, conducted at Senate House, University of London, January 13th 2023

<sup>1</sup> Government Office for Science “The Futures Toolkit” [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/674209/futures-toolkit-edition-1.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/674209/futures-toolkit-edition-1.pdf)



Annex A provides the invitation and schedule for this half day workshop which was attended by 17 participants (11F/6M) from a range of organisations, the majority of which were academic institutions.

The workshop commenced with an introduction to the Navigating the Future project and its aims, followed by a brief explanation of the foresight methodology (n.b. presentation slides are available separately).

The workshop then focussed on two major activities

- a) inviting feedback on important research topics that will inform the completion of the literature review and
- b) identifying drivers of change that participants view as likely to have a significant influence on the future of online and distance education over the next ten years.

Virtual workshop sessions, conducted on Zoom, January 17th 2023

Two virtual workshop sessions were conducted, designed to enable engagement with international participants in two different times zones. The first one attracted 13 participants and the second 5 participants.

Each virtual workshop was designed to take between one hour and ninety minutes, and whilst the agenda and workshop activities were similar to the face-to-face event, due to the time limitation these workshops were conducted with a different emphasis and made use of different online interactive tools – Padlet, Mentimeter and JamBoard in order to generate feedback and inputs from participants.

The activities from this first round of face to face and virtual workshops are now described in more detail and an analysis of the data provided by the participants is presented.





Activity One: Feedback on literature review

During this interactive session the main topic headings for each of the seven key themes from the literature review (listed below) were presented as follows:

Table 1 Topics from Literature review

Technology Trends	Teaching Tools and Techniques	Learners Preferences and Practices	Sector and Industry Trends: Higher Education Sector	Sector and Industry Trends: Wider Learning Industry Trends	Digital Poverty	Sustainability	Ethics
<ul style="list-style-type: none"> <li>• Learner Expectations</li> <li>• Open Education</li> <li>• AI</li> <li>• AR/VR</li> <li>• MetaVerse</li> </ul>	<ul style="list-style-type: none"> <li>• Pedagogy vs Novelty</li> <li>• Educator support &amp; development</li> <li>• Evolution of LMSs</li> <li>• Experimentation and Knowledge Sharing</li> </ul>	<ul style="list-style-type: none"> <li>• Learning Analytics</li> <li>• Learner Analytics</li> <li>• Learning Behaviours</li> <li>• Learners Digital Capabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Degree Partnerships</li> <li>• Personal Portable Learning Portfolios</li> <li>• Qualification Standards</li> <li>• Credit Frameworks</li> <li>• Funding Models</li> </ul>	<ul style="list-style-type: none"> <li>• Lifelong Learning</li> <li>• Knowledge Decay</li> <li>• Augmented Intelligence</li> <li>• Micro Learning</li> </ul>	<ul style="list-style-type: none"> <li>• Learners' Digital Capabilities</li> <li>• Educators' Digital Capabilities</li> <li>• Access to devices</li> <li>• Connectivity</li> <li>• Forced Displacement</li> </ul>	<ul style="list-style-type: none"> <li>• EDI</li> <li>• Reduction in technology availability</li> <li>• Reduction in energy availability</li> <li>• Climate crises</li> <li>• Resilient Learning Design</li> </ul>	<ul style="list-style-type: none"> <li>• Surveillance and Privacy</li> <li>• Decolonisation</li> <li>• Globalisation</li> <li>• Equitable access to HE</li> <li>• Wellbeing</li> </ul>

Participants working in groups (which rotated their members between themes) were invited to highlight any gaps and important research topics that should be considered when completing the literature review. Annex B provides tables (from both the face to face and virtual workshops) where all of the responses (which groups noted down on post-it notes) are listed. The main new topics arising from this exercise for each of the literature review themes are shown in the table below.

In addition to the topics identified, there were comments related to the technology focus of the review, in particular the lack of human(ities) and a closed world assumption.



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Table 2 Topics for inclusion in Literature review

Technology Trends	Teaching Tools and Techniques	Learners Preferences and Practices	Sector and Industry Trends: Higher Education Sector	Sector and Industry Trends: Wider Learning Industry Trends	Digital Poverty	Sustainability	Ethics
<ul style="list-style-type: none"> <li>• Haptics</li> <li>• AI – threat to assessment security?</li> <li>• Surveillance</li> </ul>	<ul style="list-style-type: none"> <li>• Impact of AI</li> <li>• Analytics change the type of evidence and feedback available</li> <li>• Ambient presence</li> <li>• Are faculty able to change practice inline with technology shifts?</li> <li>• What limits development?</li> </ul>	<ul style="list-style-type: none"> <li>• How are preferences impacted by context</li> <li>• Learners shaped by context</li> <li>• Learner choice</li> </ul>	<ul style="list-style-type: none"> <li>• Increased completion</li> <li>• Private and global providers</li> <li>• Portfolio education to support portfolio careers</li> <li>• Ungrading</li> <li>• Casualisation and the gig economy</li> <li>• QA frameworks</li> <li>• Employability</li> <li>• Apprenticeships</li> <li>• Assessment that builds and evaluates skills</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of official recognition for lifelong learning</li> <li>• New entrants from a variety of sectors</li> </ul>	<ul style="list-style-type: none"> <li>• Is it the right term?</li> <li>• Access to study space</li> <li>• Focus on critical capabilities, not just functional</li> <li>• Course design not reflecting learner capabilities</li> <li>• Stable infrastructure</li> <li>• Device appropriate learning and assessment design</li> <li>• Factors beyond forced displacement</li> </ul>	<ul style="list-style-type: none"> <li>• Students as activists</li> <li>• Supply chain</li> <li>• Perma-crises</li> <li>• Geo-politics</li> <li>• Localisation</li> <li>• Economics</li> <li>• What should be digitised?</li> <li>• Environmental impact of online / digital education</li> </ul>	<ul style="list-style-type: none"> <li>• Safeguarding</li> <li>• Who are the decision makers?</li> <li>• Free speech</li> <li>• Knowledge ownership and IPR</li> <li>• Intersectionality</li> <li>• Staff wellbeing</li> <li>• Responding to complex support needs</li> <li>• Balance with innovation</li> </ul>



The outputs from this activity i.e. important potentially missing topics, were considered when finalising the scope and coverage of the literature review.

Annex B also contains lists of points made at the two virtual workshops, where Mentimeter was used as a tool to invite participants to vote on what they perceived as the most important topic under each section heading of the current literature review topics (n.b. not done in the second virtual workshop), and to identify other important topics under each of the seven sections.

Participants were also invited to vote on the section theme they felt was most significant in terms of impact. The results from each session were markedly different. Note however that there were only 5 participants in the second session. There were 13 participants in the first.

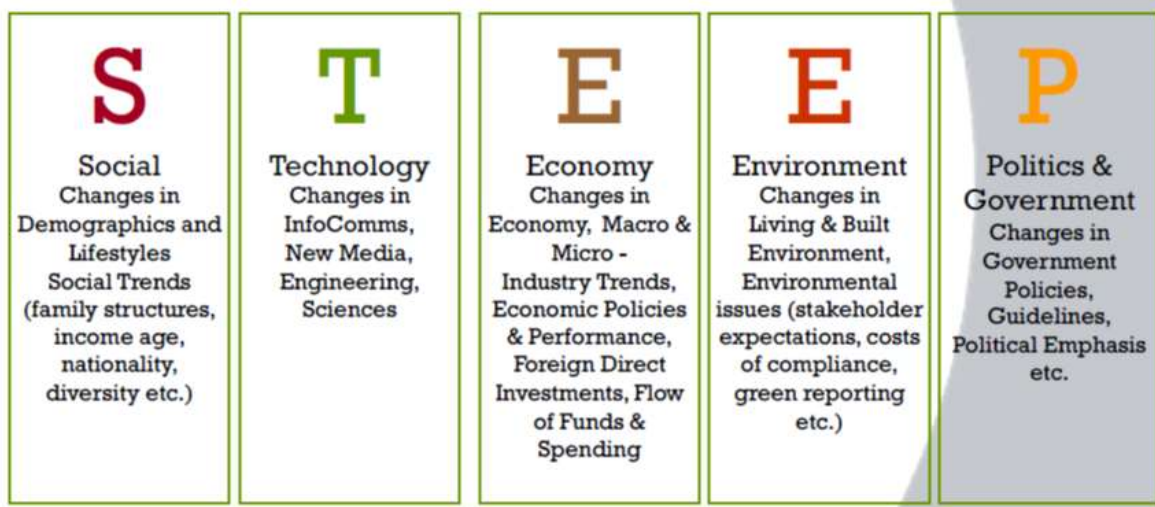
Table 3 Ranking of themes: Greatest potential future impact

Ranking	Session 1	Session 2
1	Learner preferences and practices	HE sector trends
2	Technology trends	Technology trends
3	Teaching tools and techniques	Digital poverty
4	Digital poverty	Wider learning industry trends
5	Wider learning industry trends	Sustainability
6	Sustainability	Teaching tools and techniques
7	Ethics	Learner preferences and practices
8	HE sector trends	Ethics

Activity Two: Identification and ranking of drivers of change

The second major activity in the workshop sessions was the identification of major drivers of change that can impact online and distance education in the next ten years. Whilst this session was informed by the preceding activity related to research topics, participants were invited to think more broadly about potential drivers under the headings below which follow the acronym STEEP:

'STEER' is a mnemonic for things (Driving Forces) that are changing in the Contextual Environment



Source: Foresight Horizon Planning Centre, Government Office for Science, 2009



Participants in the face-to-face workshop worked in groups and identified drivers on post it notes. The drivers were clustered under the STEEP headings and discussed by the participants in a plenary group to identify any major missing drivers which were then added. Following this, participants were each given 5 sticky dots and invited to place votes on the drivers they regarded as most significant in terms of impact and uncertainty.

The results are shown in the first section of Annex B with votes allocated shown in brackets alongside the drivers. The virtual workshop sessions also sought to identify drivers of change, making use of online tools (JamBoard in the first session, and Padlet in the second). The results of these activities are listed in sections (ii) and (iii) of Annex C below. (n.b there was no vote during this online activities



## 4.2 Phase 2 Workshops

Face to face workshop, conducted at Senate House, University of London, March 8<sup>th</sup> 2023

This workshop was attended by 16 participants, and benefited in particular from the participation of visiting scholars from the Open University China, and senior officials from Francis Marion University, USA. This added helpful international perspectives to the activities and discussions.

### Activity Three: Framing and development of future scenarios

A range of important themes emerged from the drivers of change activity, and the next stage in the foresight process was to take two major drivers, that bring with them both high impact and high levels of uncertainty, to form the basis for framing the development of four contrasting scenarios utilising a four-segment grid.

It is important to note that the research evidence from the literature review activity and the many other drivers identified in the drivers of change activity continued to have a relevance in the development of the four scenarios and some of these drivers are reflected in the emerging narratives for these scenarios. In the development of scenarios which depict different futures in 10 years time, other major events e.g. major earthquakes, wars and political upheavals (under any of the STEEP headings) can also be brought into the narrative to explain how the future scenario could realistically have arisen.

Two major themes emerge particularly strongly in the STEEP activity – the potential impacts of AI and the volatile geopolitical context. Among other very important themes were climate change changing demographics, and ongoing and increasing inequalities including a widening digital divide. These could also be considered, but the proposal for the framing on the next stage will be based around AI and climate change driving geopolitical developments, as illustrated in the grid below:





## 1. Virtual workshop sessions, conducted on Zoom, March 15<sup>th</sup> 2023

Two further virtual workshop sessions were held with participants from two distinct time zones. The second workshop drew on a wider international group of participants mainly from the South East Asia region. At each of these workshops the participants reflected on highlights from initial drafts of two selected scenarios, and contributed their suggestions on how the scenario narratives could be further strengthened.

## 5. Project Outputs

The major project outputs are now briefly detailed:

### 5.1 Literature Review Headlines

A full list of topics identified as relevant to the literature review is included in Annex B.

The full literature review (available as a supplementary document) provides a comprehensive and up to date analysis of trends impacting online and distance education. Some of the major and most interesting themes and findings emerging from the review are briefly summarised below:

Key topics felt to be potentially significant to the digital educator of tomorrow were identified as:

1. The emergence and adoption of new technology
2. The adaptation of technology into teaching tools
3. Learner practices and acceptance of technology
4. Higher education sector trends
5. Wider learning industry trends
6. Digital Inequalities
7. Sustainability
8. Ethics

Distilling the eight themes together, overall, the challenge to educators remains both how to assess potential benefits of new technology and how best to assure return on personal and institutional investment through successful adoption and benefits realisation. Most Institutions will need to assess how best to monitor appropriateness of technology to suit institutional and individual learning needs and will develop adoption strategies aligned to users, investments and the anchors of established technologies. Similarly, individual teachers will need to weigh the pros and cons of particular tools and technologies. Decisions will need to be made against a backdrop of discernible trends:

- Learner habits are evolving rapidly, creating an increasing challenge to educators of ‘understanding the modern learner’ and of keeping up with learner expectations
- Consumer based technology and the legacy effects of Covid-19 will continue to set high expectations for learning tools, and environments
- MOOC providers are likely to continue to be catalysts for ongoing innovation and change including *degree partnerships and new forms of credentials such as personal portable learning portfolios and credit records maintained independently by the learners themselves via third party providers*
- The importance of digital literacy is likely to see demands for enhanced digital skills development in higher education from both learners and potential employers



- The selection and use of teaching tools will increasingly be for learning effectiveness rather than ‘newness’ – pedagogy will be more important than novelty
- In the short term, structured LMS’s are likely to become more open to support a learning ‘ecosystem’
- In the longer term AI and other advanced technologies are likely to grow in importance
- The value of testing, data analytics and learning pathways are likely to increase to support enhanced engagement and learning
- Flexibility of choice and agility of adoption will be important determinants of effectiveness.
- Significant gaps between availability of new technologies and access to them, with varying levels of digital capabilities both at local and global levels will limit universal adoption of new technology.
- Recent geopolitical, environmental, and healthcare crises highlight the need for resilient learning design and approaches to teaching and learning infrastructure.
- Growing awareness of ethical issues and inbuilt bias in technology based solutions will require more student-centred and context-aware learning design.
- Sharing knowledge of what works and Faculty exposure to new tools and methods will be necessary to encourage adoption but educators are somewhat overwhelmed and need to be better supported in their use of digital technologies.

## 5.2 Drivers of Change

The major drivers of change identified through the STEEP activity conducted in the different workshops are shown in the table below with numbers in brackets indicating the ‘votes’ for the importance of particular drivers. A full list of potential drivers identified in the different workshops is included in Annex C.

Table 4 Identified Drivers of Change

Dimension	Highest Voted Driver	2 <sup>nd</sup> Highest Voted Driver(s)	Driver(s) From Online Workshops
<b>Social</b>	<ul style="list-style-type: none"> <li>• Ageing population (4)</li> </ul>	<ul style="list-style-type: none"> <li>• Social Liberalism/egalitarianism of younger generation (2)</li> <li>• Education as a leisure activity- Robotic capabilities, nature of workforce changing &amp; Hybrid working (2)</li> <li>• Polarisation of the population: ageing pops/young population (2)</li> <li>• Work-Life balance decisions (2)</li> </ul>	<ul style="list-style-type: none"> <li>• Continuing social divisions between rich and poor</li> <li>• Cultural impact</li> </ul>
<b>Technical</b>	<ul style="list-style-type: none"> <li>• AI - as a threat to assess some of student support (10)</li> </ul>	<ul style="list-style-type: none"> <li>• Technology relentless commercialisation (2)</li> </ul>	<ul style="list-style-type: none"> <li>• AI impact on assessment integrity</li> <li>• Cyberwars disrupt online education</li> </ul>





			<ul style="list-style-type: none"> <li>New types of mobile technologies enable ever increasing learning on the move in diverse locations</li> </ul>
<b>Economy</b>	<ul style="list-style-type: none"> <li>The end to growth- Increased Inequality of wealth, Move to authoritarianism –</li> <li>End of Public Institutions &amp; Control on what people learn (5)</li> </ul>	<ul style="list-style-type: none"> <li>Focus on skills for life to meet flexible careers/labour market (4)</li> </ul>	<ul style="list-style-type: none"> <li>Reduced HE funding</li> <li>Focus more on market forces rather than social need</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>Sustainable campuses, increased student pressure for green HE (8)</li> </ul>	<ul style="list-style-type: none"> <li>E- Environment - Greening of education (4)</li> </ul>	<ul style="list-style-type: none"> <li>Green energy</li> <li>Environmental considerations, resource constraints and adverse impact on the poorest</li> </ul>
<b>Political</b>	<ul style="list-style-type: none"> <li>Government + Control of Education- OFS (7)</li> </ul>	<ul style="list-style-type: none"> <li>AI replaces boring academic work, rote learning + 5 para essays - AND are free to teach + Learn (2)</li> <li>Social Movement - #Metoo, BLM, decline of patriarchy decolonisation (2)</li> <li>Uncertain future funding for HE (2)</li> </ul>	<ul style="list-style-type: none"> <li>Politics of division and rise of nationalism</li> <li>Wars in Asia Pacific</li> </ul>

### 5.3 Future scenarios

The four scenario narratives are included in Annex D. Brief highlights from each scenario follow in the table below

Table 5 Scenario summaries

1	Positive AI impact in a positive geo-political context	Imagine all the people	AI has had numerous positive impacts on students' academic performance and on the global geopolitical context. From promoting global connections, enhancing the quality of education, promoting diversity in thinking processes, and ensuring data privacy and ethics, AI technology has revolutionised
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			the educational system and transformed the way students learn and experience the world.
2	Positive AI impact in a challenging geopolitical context	The glass half full	Widespread availability of low-cost AI generated courses and AI learner support has had a mixed affect on university education systems. University academics have benefited from no longer having to teach repetitive and low-level content to large first year undergraduate cohorts. Examinations have been transformed by the abolition of memory testing questions such as essays and routine calculations. In their first year, undergraduates are taught how to use generative AI tools to assist their learning. However, increases in the use of AI are helping to drive continued growth in negative climate effects, heightening geopolitical tensions still further.
3	Negative AI impact in a positive geopolitical context	Last chance saloon	Education institutions now fall into three major categories who distinguish their pedagogical model as either (i) 100% AI driven, (ii) AI/Human hybrid, and (iii) human centred. These models have differing roles for academics and educators and support different research agendas and political drivers. The goals and values relating to each of these differ substantively. The situation in 2033 is that these three models can co-exist in conflict within the same institution.
4	Negative AI impact in a favourable geopolitical context	Wishful thinking	A higher education system increasingly hollowed out by government mandated marketisation has become easy prey to the allure of companies trying to sell AI solutions (higher) education doesn't need for the purpose of profit maximisation and 'rent extraction'. As a result, AI has led to mass individualisation of education, step-based teaching, an erosion of human learning support and an assault on epistemological questions around what constitutes knowledge and how to critically interrogate it. For academics and higher education professionals it has meant increased precarity and objectification through 'cloud' and 'gig' work.

## 6. Findings and Next Steps

It is clear from this foresight study that we are in a period of great uncertainty. The geopolitical context is extremely volatile, and there are increasing levels of concern over the potential impact of



AI not only on the education sector, but on many aspects of our lives. Alongside these factors, climate change, changing demographics and ever growing social and economic inequalities are among the many drivers that will impact the world in the coming years. Education that is well designed and delivered and that reflects clear values is of key importance in influencing and shaping the future.




Each organisation that is involved in education, be it in face-to-face, blended, or online and distance delivery, needs a clear strategy for the long term that guides its contribution to influencing the world positively in line with its mission and values. This study has focussed on the future for online and distance education, and we hope that the outputs will be useful for organisations working in this sector, to support relevant policy and strategy development.

### Developing Organisational Strategy

There are a range of foresight tools that can be useful in developing organisational policy and strategy as illustrated in the table below. Some of these are utilised in the 'Navigating the Future' workshop presented at the 2023 Association for Learning Technology conference (ALT-C 2023: Warwick University <https://altc.alt.ac.uk/2023/programme/>)



## Tools for developing and testing policy and strategy

Tool overview	Use it to	Time required
 <p><b>Policy Stress-testing</b> is a method for testing strategic objectives against a set of scenarios to see how well they stand up against a range of external conditions</p>	<ul style="list-style-type: none"> <li>• explore how different scenarios might affect strategic objectives</li> <li>• identify which objectives are robust across the full range of scenarios and which will need to be modified if conditions change in the future</li> </ul>	<ul style="list-style-type: none"> <li>• 1.5 to 2 hours</li> </ul>
 <p><b>Backcasting</b> is a method for determining the steps that need to be taken to deliver a preferred future</p>	<ul style="list-style-type: none"> <li>• identify what needs to change between the present and the preferred future</li> <li>• build a timeline that sets out the key changes</li> <li>• determine and address the key internal and external factors that might affect the timing or scale of change</li> </ul>	<ul style="list-style-type: none"> <li>• 4.5 to 5 hours</li> </ul>
 <p><b>Roadmapping</b> shows how a range of inputs – research, trends, policy interventions, for example – will combine over time to shape future development of the policy or strategy area of interest</p>	<ul style="list-style-type: none"> <li>• build a holistic picture of the different elements in a project and how they combine over time</li> <li>• deepen understanding of the connections and relationships between different elements</li> </ul>	<ul style="list-style-type: none"> <li>• 60 to 90 minutes for an initial map</li> <li>• Can be further developed throughout the life of the project if required</li> </ul>

Source: Government Office for Science Futures Toolkit (p12)<sup>3</sup>

Development of policy and strategy is best done within the specific context of an individual organisation. For a workshopped process that is not too time consuming and resource intensive, we recommend the following:

1. Familiarising with the Navigating the Future Project literature review findings
2. Reviewing the major drivers of change identified in the Navigating the Future Project and adding any missing drivers that are important to the organisation
3. As a group activity, review and discuss the scenario narratives, and if you have time feel free to further develop these narratives
4. Consider using the backcasting method to identify a timeline with key steps that need to be taken to arrive at a preferred future

<sup>3</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/674209/futures-toolkit-edition-1.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/674209/futures-toolkit-edition-1.pdf)



5. Brainstorm ideas you might use in response to your scenarios. Avoid evaluating the ideas: focus on generating as many ideas as possible
  - What strategies would be useful to achieve the +ve things you see in this scenario ?
  - What strategies could be used to avoid some of the –ve things you see in your scenario ?
6. After brainstorming pick your several best strategies, and using a template such as the one illustrated below, do a simple ‘stress testing’ evaluation of the strategic options, to see how well they work across the scenarios to influence positive outcomes

### Example template

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Strategic Option 1	😊	😊	😐	😞
Strategic Option 2				
Strategic Option 3				
Strategic Option 4				

😊 = robust  
 😐 = needs modification  
 😞 = does not work

The table below illustrates a more nuanced ‘stress testing’ approach:

#### Strategic options analysed against scenarios

Scenario	Fortress Nirvana <i>(Pro-poor, secure)</i>	Another brick in the wall <i>(Elite, secure)</i>	Midnight in the garden <i>(Pro-poor, insecure)</i>	Four horsemen <i>(Elite, insecure)</i>
<b>Option</b>				
1. Funding broker	✓	✗	✗	✗
2. Technical Assistance	✗	✓	✓	✓
3. Advocacy	✓	✓	✗	✓
4. Corporate Social Responsibility	✓	✓	✓	✓
5. Think & Do tank	✓	✓	✓	✓
6. Partnership broker	✗	✓	✓	✓
7. Sector/Thematic specialisation	✓	✓	✓	✓
8. Maximise income	✗	✗	✗	✗
9. Whatever communities want	✓	✗	✗	✗
10. Emergencies	✓	✓	✗	✗

■ Robust     ■ Significant     ■ Important but risky  
 ✓ Works     ✗ Does not work



7. Decide which strategic options your organisation should adopt

## Annex A: Navigating the Workshop No.1 Overview

Workshop details

### **Workshop Date and Time:**

Thursday January 12<sup>th</sup> 2023, Arrival 1pm (lunch) followed by 1.30pm start, finishing by 5pm

**Organiser:** University of London Centre for Online and Distance Education (CODE)

**Venue:** Senate House, London. Rooms G11; For location see map at: <https://london.ac.uk/contact-us>

**Virtual Participation:** details will follow for those intending to participate online

### Project Context and Workshop Introduction

The local and international context for online and distance education is rapidly changing, with the increasing focus on using digital technologies influencing educators, programme designers and students. The last few years in particular have seen major changes taking place in a global geopolitical context that has been affected by pandemic, war, and economic crises. Technology is also having a major influence on online and distance education, but with potentially significant differences in different parts of the world in both readiness and uptake of new approaches and also in relation to innovation.

For an online and distance education programme to remain cutting edge, relevant and competitive, it is important to develop an understanding of the drivers of change and have a clear vision of how best to develop and position the programmes to support the future needs of students.

The 'Navigating the Future' project aims to inform future planning for the medium to longer term by identifying realistic scenarios now for the future of online and distance education taking into consideration the global nature of University of London's provision. What are the opportunities and threats and what might the 'new normal' or the one after that look like for providers of online and distance education? What would be the implications for the University of London's own activities in planning for the future of online and distance education in order to remain cutting edge in its approaches?

The project uses foresight methodologies to address these questions and provide strategic insights that can help educators and planners to move towards a preferred scenario for future online and distance education provision.

Whilst there is a focus on activities of University of London and its federation member institutions, the study is also intended to be of interest and benefit to the wider community of online and distance education providers, and through a series of two workshops we are seeking to draw on a wider and diverse range of expertise, and this workshop in particular will provide an opportunity for shared learning and insights.

CODE Fellows Jon Gregson, Professor Stephen Brown, Samantha Ahern and Professor Norbert Pachler supported by student research fellows will facilitate this process, with logistical support from the University of London's Centre for Distance Education ([www.code.london.ac.uk](http://www.code.london.ac.uk)).



### The Foresight Process and the Workshops

This process is a creative and participatory one, which enables those involved to generate narratives and imagine different futures. Prior desk research will provide a starting point to inform but not limit discussion.

During this initial workshop the highlights and key issues from the draft literature review will be presented and discussed. We will then use foresight methodology to generate ‘drivers of change’ which will inform the planning for the second workshop that will also take place early in 2023 where scenarios for the future, and strategic implications will be developed. The foresight process is not about prediction but helps us envision the range of possible futures that the drivers of change may lead us towards and analyse their implications. Some of these scenarios may look a lot more favourable than others! Towards the end of the 2<sup>nd</sup> workshop (time permitting) and in the report write up a preferred scenario will be described, with recommendations of actions to make its achievement more likely.

### Outputs

The summary and final reports produced from the workshops and project process will be shared with all participants. The outputs from this process, should be of potential value to participants involved in strategic thinking within their own programmes.

### Inputs Requested

Our ‘Navigating the Future’ project team are currently engaged in a literature review process, and a rough draft of what is emerging from this will be shared and presented at the workshop. We would be very grateful for any input and advice you can give to inform the literature review either prior to or during the workshop. Please email any links or sources you suggest we look at to Professor Stephen Brown (profstephenbrown@gmail.com) by 30<sup>th</sup> November 2022.

### Participants

The workshop will bring together a wide range of experience in international online and distance education and use of technologies relevant to teaching and learning. We anticipate there will be around 20 participants attending in person, and additional international and UK participants participating virtually. Participants will include representatives from University of London Colleges involved in distance education, and from other relevant stakeholders and experts from diverse sectors.

### Indicative Programme

1pm	Arrivals and buffet lunch
1.30pm	About the project; workshop objectives and introductions
1.45pm	Brief introduction to foresight methodology, and outcomes from previous foresight projects
2pm	Presentation and brief discussion of highlights from the literature review covering New Technologies, Teaching Tools, Learner Habits, Sector & Industry Trends, Sustainability & Ethics Expert input from invited participants, to identify gaps, and highlight top priority strategic issues for future consideration
3.00 pm	Tea/Coffee
3.15pm	Interactive session to identify Drivers of Change
4.15pm	Clustering of drivers of change, and reflections on main findings
4.45pm	Wrap up





5.00pm

End of Workshop





## Annex B: Literature Review Topics

Topics identified during group work activity session

**Note:** The bullet points have usually been listed under the heading in which they were submitted during the activity, although in some cases it is clear they could have gone better under another heading, or indeed be placed under more than one heading

### Face to Face Workshop Session

#### *New Technology Trends*

- Importance of device appropriate learning /assessment design
- New Entrance from a variety of sectors
- Big Data Analysis
- OPMs/MOOCs Threats
- How performances etc are impacted by context
- AI - Threat & adviser
- Learning Analytics- Ethical Issues
- AI & Ethics relating to learning
- LMS, A subset of Infosystems are likely to be replaced by a general purpose system?

#### *Teaching Tools and Techniques*

- Closed World Assumptions
- Where is the Humani(ties)
- What are the limiting factors on educational development? Tech or educational development?
- Even if LMS evolves are faculty creating values within the system

#### *Learners Preferences and Practices*

- Choice
- STL+ Teaching - Focused careers + promotion frameworks
- Casualisation + Big economy
- Transnationalism ( can it survive ?)
- Politics of migration
- Assessment that builds plus evaluation skills
- Regulatory plus QA frameworks (politics)
- Upgrading
- Analytics Change the types of Evidence & Feedback Available
- Developers Analytics?
- Course design not reflecting existing learner capabilities
- Learners behavioural & learners expectation overlap

#### *Sector and Industry Trends: Higher Education Sector*

- Revenue Generation
- Student Numbers /Retention
- Learners shaped by their contexts



### *Sector and Industry Trends: Wider Learning Industry Trends*

- Apprenticeships- Degree
- Technology- LED
- Convergence
- Collaboration
- Private Providers
- Global Providers
- More Competition
- Distermediation
- Reintermediation
- Brand
- Life long Learning
- Micro-credentials
- Greater Focus on employability jobs of th future
- OFS - demands for standards
- Students- WTP- Willing to pay
- Life Long Learning - Not Supported by UK Govt
- Portfolio education to reflect portfolios careers
- Funding /Self Funding Choice and voice
- Access from anywhere - Comp
- Mobile /Learning/5G
- Technology Obsolescence needs
- Transferrable skills
- Mobile Money
- Tech Infrastructure
- More Bite sized/Chunked
- Mobile /Learning/5G
- Technology Obsolescence needs
- Transferrable skills
- Mobile Money
- Tech Infrastructure
- More Bite sized/Chunked
- Customer demand /Feedback
- Innovation + Research
- Contextualisation is key
- Inclusive education design
- Evolution of apps
- Expectation of access to teaching staff

### *Digital Poverty*

- Actual Poverty
- Digital Inequality of (better term) Empowerment
- Disadvantaged + Disabled Capabilities influenced by course nature /Context
- Technician Inequalities- APPs, search, fonts Not Available to all
- Access to Places (to Study)
- Awareness & Knowledge
- Electricity
- Money: Skills
- Some mileage in non -digital radio/(CCSresp?)



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Navigating the Future Project Report





### *Sustainability*

- Sustainability of WW HE
- Dependence of International students - environmental/political /financial
- Risk of being seen as add on to crowded curriculum
- Do less Co2
- But e-learning no better
- Mass displacement Economics
- Education Tech Firms
- Apprenticeships
- PermaCrisis
- Supply Chain
- Geo Politics
- Localism
- Artisanal
- Community
- Collaboration
- Cultural
- Stimulates Innovation
- Regulations/Law/Finance x complexity + nuance and relativism
- Assumption Vs Data /Reality
- Age
- Enabling students to be activities on this stuff
- What data should be digitised and sustained? Existing Biases
- Full Env- Impact of Online Education
- Implications arising from nature of future workshop + skill sets
- War (Over Resources)
- Disease (More Pandemics)

### *Ethics*

- Staff Wellbeing
- Safeguarding
- Responding to complex support needs/diagnoses
- Gender
- Data security
- Digital inclusion
- Welfare of Learners and teachers
- Haptics Surveillance (Revellon)
- Ambient Presence - Belonging
- Add free Speech
- Who decides?
- Regulations/Law/Finance x complexity + nuance and relativism
- Intersectionality
- Developers Ethics?
- Safeguarding
- Balance with Innovation
- Competition and big data



## Virtual Workshop Sessions (based on Mentimeter comments)

### *Virtual Workshop Session No.1*

Trends that were identified as having the highest impact are denoted in **bold**.

#### Technology Trends

- **Learner Expectations**
- **AI**
- Metaverse
- Assessment: Integrity v authenticity v scalability
- Online exams is a major attraction specially during post Covid times
- Linked to learner expectations is the idea of LXD: Learner Experience Design. So designing for learning ideally with students. SO not a technology per se but approaches to intentional use of technologies for learning

#### Teaching Tools and Techniques

- **Experimentation and knowledge sharing**
- Co-creation of curriculum
- Chatbot teaching assistants
- Again assessment technologies plus micro credentials and stackable credits generally
- AI supplements teaching
- Blend sync (synchronous v asynchronous) lessons – more possible e.g. Zoom than before
- Techniques to regain students focus throughout semester
- Students learning engagement, motivation and effectiveness
- Staff development and student expectation
- Gamification
- Mid term exams/course works should also be given weightage. In order to keep students more engaged throughout the year
- More mobile learning
- Faculty to be equipped with learning experience design know how
- Partnership to leverage etch advances with other institutions or industry

#### Learner Preferences and Practices

- **Learner digital capabilities**
- Blended
- Flexible learning and distance learning
- Consumer grade learning experience
- Lifelong
- Access to eResources
- ROI of Higher ed
- Motivation on learning
- Increased need for flexibility in time and place (impacting on campus) but also online if synchronous is part of the design
- Disturbances from mobile phone/chat apps
- Digital learning passports (tech slide?)



## Sector Trends

- **Personal portable learning portfolios**
- Energy
- Student recruitment tools and strategies
- Companies/employers completion, skills and development
- The push for bringing costs down and limited resources will force more partnerships
- Regulation
- Competition from non academic providers
- In Australia the federal government qualifications framework limits programme design and doesn't include micro credentials, but federations have done a separate micro-credentials market place
- Cost
- Corporate universities

## Wider Learning Industry Trends

- **Lifelong Learning**
- Influence of major private sector players, google etc
- Competition from private providers
- Impact of this education within the society, specifically for the distance learning community
- Students access to websites to help them answering lectures; exercise – their could be issues on students' integrity
- Government policies to ensure employment
- IT companies, Food and beverage education industry, government
- Online learning
- In Australia the indigenous voices to parliament and indigenous knowledge in ed are an increasing influence on programme design. NZ is further along that road
- Accessing resources at the right time

## Digital Poverty

- **Access to devices**
- Who's knowledge
- Access to advanced technologies will make the digital and learning divide even wider
- Digital divide is growing. Metro based unis designing with the assumption students have broadband is a problem
- Access the right information
- Access to private space in which to study/go online in a crowded place like HK

## Sustainability

- **Resilient learning design**
- Major climate or environmental events
- Privacy issues, lack of concentration issues
- Awareness may drive more distance learning programmes compared to international in-person programmes
- Aging population and low birth rates
- Security
- Resources generally
- Reduced budgets / resources / staff but increasing students is placing a pressure on how sustainable the current education system is; some rethinking is needed



## Ethics

- **Surveillance and privacy**
- Plagiarism
- Students attendance tracking
- Security of data
- Security
- Authentication
- Increased need for accessibility features / services but unis not putting in funding / resources to do it properly

## Ranking of themes by greatest potential future impact

1. Learner preferences and practices
2. Technology trends
3. Teaching tools and techniques
4. Digital poverty
5. Wider learning industry trends
6. Sustainability
7. Ethics
8. Sector trends



## Virtual Workshop Session No.2

Note: Due to limited number of participants there was no ranking of highest impact topics (among the topics currently identified in the literature review) under the different headings

### Technology Trends

- Near global internet access
- blended or hybrid learning increases
- Resource constraints will necessitate a strong focus on sustainability
- Students job expectations, levels of information literacy, students economic levels
- For distance learning, there should be interactive sessions between students and faculty of University of London

### Teaching Tools and Techniques

- AI capabilities
- Teacher student interactional patterns, types of assessment, relevant to their making sense of their learning processes
- Again interactive session between external students and faculty members

### Learner Preferences and Practices

- Availability of OER resources
- Redesign needed of assessment
- Their learning experience

### Sector Trends

- Student dropout increases further
- unbundling

### Wider Learning Industry Trends

- Hybridity and blend
- Open access learning

### Digital Poverty

- A wider gap in geographical conditions within one region

### Sustainability

- *No points made*

### Ethics

- Policy, governance and regulation





### Ranking of themes by greatest potential future impact

1. Sector trends
2. Technology trends
3. Digital poverty
4. Wider learning industry trends
5. Sustainability
6. Teaching tools and techniques
7. Learner preferences and practices
8. Ethics



## Annex C: Drivers of Change

Topics identified during group work activity session

**Note:** The bullet points have usually been listed under the heading in which they were submitted during the activity, although in some cases it is clear they could have gone better under another heading, or indeed be placed under more than one heading

Drivers identified in Face-to-Face Workshop

### *Social*

- Changes in evaluating online sources of info
- Increased diversity of knowledge base
- Social Liberalism/egalitarianism of younger generation (2)
- Increased demographic diversity in UK (1)
- Ageing population (4)
- Demographics- Ageing population, Shrinking workforce (1)
- Education as a leisure activity- Robotic capabilities, nature of workforce changing & Hybrid working (2)
- Polarisation of the population: ageing pops/young population (2)
- Time Poverty (1)
- Flexibility + Opportunity
- Geographic separation of work+home
- Large scale migration increasing diversity
- Polarisation of security of employment
- Work-Life balance decisions (2)
- Widening inequalities
- Access to Education
- Workers Preferences
- Automation of Routine Activities- All wearing silver suits
- Access to education e.g Nigeria
- Changes in where knowledge is coming from e.f mainly in west

### *Technical*

- AI - as a threat to assess some of student support (10)
- Technology relentless commercialisation (2)
- Deepfakes
- Flexibility + Opportunity
- Language of technology- some not supported by tech yet and predominantly English
- Scarcity of resources
- The tech environment affects opportunities
- Influencer- Culture
- Internet access globally
- Increased ability to connect with others and collaborate
- Democratisation of knowledge (1)
- NLP, AI- A.R - Avatars
- Ethics & Learning Analytics
- Continued expansion of access to technology
- Technical Environment: Could influence opportunities to learning e.g 5G/ Infrastructure can influence behaviour



### *Economy*

- Change in the global picture | UK HE relationship with international students shift
- Increased economic protectionism
- Increased globalisation
- Gig economy- Shift in global axis (1)
- Gig economy+ workers rights & Funding for education (2)
- Increased flexible working (Impact on cities/ POSD for international working
- Reduced working week (2)
- Focus on skills for life to meet flexible careers/labour market (4)
- Universal basic income+ its impact
- Replacement and/or reduction of professions/careers
- Universal basic income
- Cost of living Crisis
- Energy costs/ crisis
- Recession
- Gig economy
- Short term skills
- The end to growth- Increased Inequality of wealth, Move to authoritarianism –
- End of Public Institutions & Control on what people learn (5)
- E-economy- Employment changes, Political Struggles & Funding for educations (2)
- Taxes for Tech Giants
- Competitions between industries including educational
- Tax laws; Accounting replaced by robots, Shifting population by international students.

### *Environment*

- Sustainable campuses, increased student pressure for green HE (8)
- E-Waste eg Batteries (Recycling) (1)
- More regenerative agriculture
- E- Environment - Greening of education (4)
- Personalising education
- Environment greening of education
- Impact of Climate Change (1)
- Environmental costs of cloud computing + AI processing
- Increased demand for access to nature (1)
- Developing tech solutions
- Doomed travel for education, Replacement of travel interactions+ CO-OP globally ,Education
- Natural Resource scarcity + food security
- Costs of meeting CO2 targets
- Environmental climate degradation impacting populations
- Dynamic responses
- Scarcities of resources in making diversity - and how does this relates to HE , being responsible users
- What do we do to batteries? Bury them?



### Politics

- AI replaces boring academic work, rote learning + 5 para essays - AND are free to teach + Learn (2)
- UN SDGs
- Social Movement -#Metoo, BLM, decline of patriarchy decolonisation (2)
- Politics +gov polarisation of left /right
- The globalisation of commercial reach (companies richer than the governments)
- Longevity
- More targets + Monitoring - Loss of control, lack of redress, loss of ability to discern truth, credibility & No need to work
- Backlash- Andrew Tate
- Government control of education- Ideology Ownership of ED (Hidden) (1)
- Debates about freedom of speech/What is knowledge /Who decides
- Government + Control of Education- OFS (7)
- Ownership of Education
- Labour Government (1)
- Brexit
- Censorship
- UK Political Instability leads to the inability to plan/act
- Labour Government
- Longevity
- Long populism
- Uncertain future funding for HE (2)
- Funding /Selective funding for HE
- Variety of knowledge, firewalls etc
- Control etc
- Future relationship with China
- Freedom of speech
- Freedom to teach and learn
- Success in political movements e.g MeTOO offers opportunities for change



## Drivers identified in Virtual Workshop No.1 (using Jamboard)

### *Social*

- Cultural impact
- Family members and friends influences
- Social health care
- Quiet quitting
- Australia (maybe other countries) could be related to colonisation agenda too) – indigenous justice/voice/knowledge – but the politics around it is uncertain
- Events should be planned to improve social awareness and promote adaptability among masses

### *Technology*

- Artificial intelligence – impact on assessment integrity
- Tech training for educators should help too - for smoother online lessons; training to stop training in students exercises

### *Economy*

- Reduced funding for Higher Education
- Weak government – country less attractive & less FDI – less prosperous country – higher costs for teaching technological tools
- Equal access to information and resources
- Inflation and recession – tuition fees becoming unaffordable, student debt crisis
- Stable economy brings prosperity. Public feels pushed to give their maximum. Since they can feel the rewards
- Too much funding for research/publication to the extent that the teaching and learning side has to be happy with the meagre allocation.

### *Environment*

- Green energy
- Public should be exposed to the reality and importance of healthy environment. So they can realise its importance and plan their actions accordingly

### *Politics and Government*

- Rise of nationalistic sentiment
- War in Asia-Pacific e.g. China v USA would be a major disruptor
- Political instability causes inflation. Pressure upon masses. Public shows distrust and affordability becomes a major concern



## Drivers identified in Virtual Workshop No.2 (using Padlet)

### *Social*

- Social division
- Continuing rich/poor divide
- Paradigm shifts of society toward higher education

### *Technology*

- AI capability maturity
- Cyberwar happens disrupting online access
- New types of mobile tech enables ever increasing learning on the move in diverse locations

### *Economy*

- Continuing intensification of neo-liberalism; so more market approaches rather than social need
- Skills shortages

### *Environment*

- Climate change
- Instability in climate adds insecurity, esp for poorer social groups and Global South
- Environmental considerations and resource constraints as well as concerns about sustainability

### *Politics and Government*

- Controls over higher education in terms of standardisation to some degree in the policies and regulations
- Politics of division
- Social division further enshrined in policy, funding and law for ed



## Annex D: Scenarios for the future of online and distance education

### Scenario 1 : 'Imagine all the people...' Positive AI in a positive geo-political context

It is 2033, the world has changed for the better. This has happened as a result of global demonstrations driven by youth making use of social media and effective lobbying. Evidence relating to the severity and urgency of the critical crises facing the world is being produced with the effective use of AI, which has also helped to target policymakers and drive political change.

The United Nations is no longer a talking shop as there is now at least grudging respect for every member country regardless of their standing. The territorial wars and other strife's that had engulfed the world are done with. Countries are now working together to solve the increasingly urgent bigger issues of climate change, energy crisis, debt and health. With the support of AI solutions are being devised and each member country's opinions/suggestions are not only taken on board, but they are also respected.

With this background of countries working together, corporations big and small have also come on board to innovate and help solve these bigger society problems. AI and its ecosystems are now an acceptable thing. Growing concerns over its use and the potential threat it could pose to humanity, lead to a major global conference in 2025 and an international agreement in 2027 where a regulatory environment conducive to growing this sector and putting it to positive use was ratified – this process was itself part facilitated by AI tools developed by academics in collaboration with the private sector.

There is now massive collaboration and co-creation of the tools, rules and algorithms that power the AI. Generally, the AI so produced is ethical in nature and the environment it is produced in is transparent and accountable. The licensing regimes for the intellectual property surrounding the use/re-use of the tools, technologies and processes is open and not restrictive for any country and/or company. This means that AI products can be adapted, used and extended and derivatives can be shared using the same open non-restrictive license. This is the time when creative common license CC0 has come out of age.

By 2027 students who are studying STEM subjects are starting to have a much more positive learning experience. They have been encouraged and empowered by the outcomes of the 2024 International Women's Day where the theme was "DigitALL: Innovation and technology for gender equality" which had been widely embraced by many countries including her own. Jabulani and her friends have taken these subjects so that they can be part of the people that will be innovating around the AI tools which they are now also using for their studies.

By 2033 significant change is being seen in the education system. Academia, the EdTech sector and wider industry have collaborated with the support of Governments and international organisations in Private Public Sector partnerships to transform the HE sector. AI has increased access to HE regardless of the individual status and learning is adaptive and personalized. Students they can now easily access the highest quality of knowledge resources pooled from around the world, and also access and interrogate the knowledge of the worlds leading experts which has informed the design of virtual reality learning environments. They make substantive use of AI chatbots and live translation tools which facilitate understanding, inclusion and global communication.

With the acceptance of AI and its use, students such as Jabulani get a constantly improving user experience. The AI generated knowledge and courseware covers key knowledge that offers them the



opportunity to focus on higher level skills that are required for their academic outcomes. AI-powered learning platforms have been great at transforming complex subjects like mathematics, science, and engineering into easy-to-understand visual and interactive formats which makes it much easier for students to understand complex concepts and apply them in practical scenarios. AI-powered personalised learning systems are also helping students with learning disabilities and special needs.

AI tools are also supporting behaviour change to prevent and rapidly detect plagiarism. This technology is helping to redefine and clarify legal grey areas related to copyright and intellectual property emerging as a result of AI and human intellectual property contributing to the creation of text, images, music, video and multimedia. These tools combined with innovations in the Financial Technology (FinTech) sector are helping ensure that creators are getting properly remunerated and continue to be incentivized to innovate and share the fruits of their knowledge and research.

Jabulani is reassured and comforted by the fact that data privacy and security is baked in into the tools and processes – the whole regime around AI is well governed and ethical use of it is the core principle of the tools. With such an AI environment, it helps them to easily connect with relevant people around the world regardless of their beliefs thereby avoiding the perils of the AI tools of a decade ago that created echo chambers. The approach that has been normalized is promoting diversity of thought and critical thinking. As students, they get instant support and responses including pastoral requirements.

The AI also connects to other services which also ensures that their wellbeing is taken care of, whether this relates to health, nutrition or something else. Another advantage that they are getting from AI is a fairer and more objective assessment of their course work. The AI being widely used is a good thing as there is this virtuous cycle of reflection and learning in a continuous feedback loop which makes the AI itself more intelligent and helpful to the students.

As students, Jabulani and her friends can also connect globally in terms of activism in topics that they are passionate about. With a stable geo-political environment, Jabulani and her friends look forward to an era of easier physical and virtual mobility which enhances their experiences of other cultures. This brings out diverse social norms in a positive way that increases mutual respect. They also look forward to the choice that is presented to them in terms of accessibility to international institutions and access to a global jobs market. If they want they can also opt to stay at home and yet still have access to range of services provided from around the globe.

For Jabulani and her friends getting this amazing experience is because educators such as Ezra with the help of friendly AI are teaching and supporting their students in a more targeted way due to availability of key datasets. As a result, they are focusing more on students' personal needs by taking advantage of the AI's constant feedback loops that has also improved content and teaching.

In this scenario of a positive AI in a positive geo-political context, academics such as Ezra who is an expert on food security have more time for research and are generating knowledge that is part of the global datasets. AI is also helping to generate good and robust research questions that include data from outside academia. Uptake or research is rapid and targeted and is having visible impact in the real world in helping to find solutions to the global crises that have brought people together (better late than never!). Research results are also rapidly translated, contextualised and made available across expert academic and practitioner networks.

Academics also have time to focus on higher level assessments of students while the AI marks the more mundane student assignments. All in all, AI has created a more diverse and inclusive networks of academics.





In terms of educational provider institutions, online/AI courses that they produce are offered globally thereby increasing their revenue. The institutions that have led the way and specialised in AI related research and AI/Human course co-creations are collaborating, have global reach and have become very well known as their courses are translated and regularly updated with the help of AI. In short, 2033 onwards is the era that allows these institutions to focus more on creating the best possible offers based on data that is unbiased, diverse, and inclusive. This is enabled by rapid diverse peer review that draws on AI tools and leading research networks. All this would have led to improved quality offerings due to increased competitiveness – Jabulani and her friends are the winners and as a result all societies are also winners.

In this post 2033 era of stability and a predictable geo-political context, a strong and prosperous global economy is emerging and the troubled period of the early 2020s and the Covid-19 pandemic is looked back upon as a key period where hard lessons were learned, and new more positive values based on cooperation eventually emerged. A lot of new types of jobs and skill needs have emerged, and AI has helped to shape new career paths.

Instead of having a ‘brain drain’ of the past, Jabulani and friends are living in an era of ‘brain gain’ – a multidirectional mobility of talent in a distributed global system. There is potential for limitless and merit-based collaborations with no restrictions regardless of the continents, countries and religions.

In this time where knowledge sharing is valued, a more focused approach on solving global challenges like climate change has ensued due to new solutions stimulated by AI data. AI developments such as self-driving cars and other intelligent machines have led to a better utilization of scarce resources through a sharing economy that ultimately has led to reduced consumption and wastage as capacity is matched to needs. Harmonization of the HE systems and qualification is now promoted and making transferability possible.

In conclusion, AI has had numerous positive impacts on students' academic performance and on the global geopolitical context. From promoting global connections, enhancing the quality of education, promoting diversity in thinking processes, and ensuring data privacy and ethics, AI technology has revolutionised the educational system and transformed the way students learn and experience the world.

## Scenario 2: ‘The glass half full’. Positive AI in a challenging geo-political context

It is 2033, and the world has changed for the better in some ways, and in some ways not, depending on where one is geographically, socially and economically.

The Sars-Covid 19 pandemic has continued to generate waves of new sub-variants and a completely new family of respiratory virus pathogens affecting human beings has emerged from Avian Flu (H5N1) causing further global lockdowns and economic disruption. Government restrictions intended to control the spread of the virus have prompted some citizens to organise protests that have escalated in places to violent clashes with authorities, resulting in further repressive measures. At the same time increasingly frequent and violent weather events such as hurricanes, droughts and floods and unseasonal temperature fluctuations have reduced food production and caused severe water shortages in some parts of the world. The response of some national governments has been to seek to take resources from neighbouring countries through a combination of special military operations and outright invasions. The combined effect of these natural and man-made phenomena has been a huge increase in population migrations as more and more people flee conflict zones,



seeking asylum and better economic prospects in wealthier and more stable regions of the world. For example, internal migration within China has reached record levels as refugees flood into major cities from the countryside while in Europe and North America, immigration controls have been overwhelmed by the volume of would-be migrants. Governmental responses in regions and countries targeted by migrants have switched from trying to stem the tide to accepting and managing the integration of large numbers of new arrivals into society as quickly and effectively as possible in order to ensure migrants are economically productive.

Under the terms of the UK immigration control act passed in 2028, new arrivals are legally obliged to work to support themselves and to contribute to the State, unless they can prove they have an economic sponsor who will contribute on their behalf. There are designated categories of 'Reserved Jobs' for such migrants sponsored by Industries that struggle to recruit from the "native" population. Sponsorship entails both providing paid employment and necessary education opportunities to enable migrants to be assimilated as quickly as possible into the culture of their new nation and to improve their employability skills with respect to the Reserved Jobs categories. Pay rates within Reserved Jobs are set at the national minimal wage with no entitlement to benefits, and employees with such jobs are tied to a minimum contract of 5 years. Such jobs require low levels of education and skill.

Rasa is a recently arrived migrant in the UK from South East Asia, driven out by rising sea levels and increasingly ferocious typhoons that have destroyed farming and critical infrastructure, leading to economic collapse, the break down of law and order and the imposition of repressive military rule that has targeted certain ethnic/religious minorities. She arrived in the UK in 2029 as refugee with no means of support.

Rasa was part way through her first year undergraduate course in business management when she was forced to flee her home country. When she first arrived 4 years ago she was contracted to work as an indentured waiter and kitchen assistant in the pub and restaurant trade for 5 years (minimum). During this time she has had free access to a wide range of free Massive Open Online Courses (MOOCs) produced by a variety of organisations. She selected those covering basic vocational training and education at a sub-degree level plus modules in British culture and citizenship, English language, etc. These courses were created by a generative AI based learning designer sponsored by the Allied Catering Trades Industry Federation. Tutorial support and assessment is provided by a ChatGPT-7 virtual assistant. The learning content and support were localised to Rasa's selected industry and personalised to her needs and abilities including real-time natural language processing, translation and tuition. These MOOC modules were very cheap to produce and run, they can be produced very quickly and can easily and flexibly adjust to fluctuations in demand and requirements. Funding for their development comes from an industry levy and course and tutoring specifications are jointly developed by industry representatives and vocational training experts. The courses are low bandwidth (few graphics, videos, audio etc.) and run on low specification, cheap, mobile phones.

As Rasa nears the end of her 5 year compulsory work contract she is beginning to consider whether to stay within the catering trade or to move on to other branches of business. She has not yet gained any qualifications that would help her to restart her university education but as a stepping stone she will shortly be offered access to more advanced lifelong learning MOOC modules and courses tailored to workers seeking accredited qualifications and career changes. These modules, which are UK Government sponsored are similarly AI based and supported and likewise free to study. They offer the opportunity to study at a higher level in order to accumulate micro-credentials that meet matriculation requirements, but summative assessment and accreditation is a paid-for



bolt-on. If Rasa can accumulate sufficient credits at an appropriate level she will be able to apply for an undergraduate degree course at any university. Rasa will find her first year as an undergrad quite similar to the MOOCs she has studied so far because they will be similarly AI based. As she moves into her second year she will find they entail a lot more on-campus face-to-face learning activities with live tutor and peer contact based on the flipped classroom model..

Meanwhile, fees for university degrees have continued to rise in line with inflation. Government loans are still available, however, since 2028, loans are only available on condition that recipients agree to work in the UK for at least 5 years after graduation regardless of their specialism. In the case of shortage disciplines such as medicine, dentistry, pharmacy, cybersecurity, AI and STEM subjects more generally, the minimum period for payback to the UK economy is 10 years.

Overall then, the widespread availability of low-cost AI generated courses and AI learner support has had a mixed affect on university education systems. University academics have benefited from no longer having to teach repetitive and low-level content to large first year undergraduate cohorts. Examinations have been transformed by the abolition of memory testing questions such as essays and routine calculations. In their first year, undergraduates are taught how to use generative AI tools to assist their learning. Staff likewise benefit from AI-based automation of examination marking and feedback to students. However, increases in the use of AI are helping to drive continued growth in negative climate effects, heightening geopolitical tensions still further.

### Scenario 3: 'Last chance saloon'. Negative AI impact in a negative geo-political context

It is 2033, and the world is on a knife edge. The Covid-19 pandemic, rise of authoritarian regimes, wars in Ukraine and Sudan and the growing effects of climate change have proved to be a prelude to an increasingly difficult period in global geopolitics with disruption and conflict evident on all continents. Against this backdrop displacement, migration, and asylum seeking have been growing annually, presenting major challenges for hundreds of thousands of affected people.

Countries have been aligning with polarised alliances, driven to an extent by ideology and to an extent by a scramble to secure supply chains that connect them to cheap natural resources and affordable energy, to support the needs of growing populations. Most economies have been struggling and the inflation and cost of living crises that surfaced in 2020 are still not under control in 2033 and only minor and patchy improvements are evident.

Those in power have seen ever increasing potential to make use of technology, social media and AI applications and tools to exert their control over volatile regions and global networks where they have most influence. The failure of superpowers to collaborate internationally to solve global problems, has led to the use of AI to support the geopolitical interests of these powers in finding partial solutions driven by self-interest. In particular they have sought to control 'their narrative' and versions of the present and history through creative use (or misuse) of media.

For example, AI is being used to support the monitoring of climate change impact and development of climate friendly locations/zones for those who can afford it to have a great standard of living. The parts of the world most negatively affected by climate change and the people who live there are treated as a lost cause. Likewise, most displaced people are treated in inhumane ways, and only those assessed by AI algorithms as likely to have most contribution to make to this new world order are integrated fully in their home or destination countries.



Within this conflicted geopolitical context, AI itself has become a divisive technology. Some countries have sought to establish agreements over its ethical use, whilst other countries and multi-national corporations have sought been opportunistic in trying to use AI in whatever way they can to gain economic and political advantages. Whatever the field whether it be international finance, security, education, art, health, agriculture, music or something else there are those trying to make use of AI to support their own interests and realities, and governments have mostly failed to keep up with the development of the technology and put in place relevant legislation. This has lead to conflict and confusion, with major uncertainties emerging around what constitutes something real or something fake, and new and multiple realities coming up against each other. Those with the money, power and media reach are now able to control and manipulate society in ways previously unimaginable. For the individual, representing and controlling ones own legal identity and reputation has become a major challenge.

The world is characterised by state sponsored cyberattacks, propaganda wars, echo chambers, increasingly effective and widespread hacking, the ever-present threat of financial disruption and surveillance that has become pervasive through the 'Internet of Things' infrastructure and drone technology. The Internet that humans interact with via their mobile technology 'skin-wear' is fragmented and much of the online world resembles a world of virtual authoritarian walled gardens. Individuals are increasingly subject to commercial, social and government pressures to invest in and use these latest IT gadgets and applications. For example, property insurance companies require householders to be members of neighbourhood watch schemes that in turn require participation in community social media apps, exploiting AI to monitor both the level of usage and the content of individuals' postings. Individuals who are judged not to post sufficiently often, or who post the wrong kinds of messages, or who do not respond quickly enough to neighbours' comments or do not "like" them enough, have their neighbourhood sociability rating reduced. Low rating levels are labelled as anti-social, delinquent, or even potentially criminal, making it more difficult for such people to receive parcel deliveries at their address, get their children accepted by local schools, obtain mortgages and other forms of credit, obtain property insurance, be served in local shops, be attended to by the emergency services or even allowed to vote in local elections. Needless to say, those without the necessary devices to deploy such apps are automatically assigned the lowest possible rating and in neighbourhoods where there is a preponderance of low rated individuals, the ratings of more active citizens are negatively affected, putting pressure on them to encourage their neighbours to conform, or to go and live somewhere else. Shanty districts have formed inhabited by "techno refuseniks" who have opted out of this level of intrusion, technically illiterate people who cannot cope with the technology and people too poor to be able to afford the increasingly sophisticated devices needed to be accepted by society.

In this scenario it is difficult to assess whether users are served by their smart devices or enslaved to them, as these gadgets transmit so much personal data and at times seem tantamount to new forms of parole ankle bracelets! Education institutions and organisations who pay for the data can get insights into time spent studying, time doing sport, time spent sleeping etc, as companies (e.g. Fitbit) gain more insights into lifestyle of individuals. This data is informing education policy and affects individual career prospects.

By 2030 the impact of AI and the global geopolitical situation had been huge. AI produced courseware and research agents/bots had replaced the need for many roles, and most learning design was developed through use of AI with images, imaginary case studies, multimedia etc all being auto generated by AI. A lot of professional activities such as general practice medical work had ceased, as it had been displaced by allocation of AI personas for people to confer with. The AI GP



equivalent had become easier to access than getting hold of a GP in 2023, but for specialist consultation you have to subscribe to an expert AI bot. This comes at a price, and at an even higher price you can get personal access to a human expert in a cutting edge field of medical practice/treatment.

The HE system itself has a parallel to this example, with AI-driven quality of education dependent on what you can pay, so the situation is very inequitable. Gina is a student studying the environment, who is based in a low-income country. She has limited financial means, and her AI education support tools are designed to only get her so far in her chosen subject, and will equip her for work roles that support day-to-day resource management, environmental management and survival in her local community which is not considered to be one of the climate friendly zones. She receives a lot of what some would regard as 'fake' or 'false' news about the state of the world and the nature of the achievements of those who are in power, and has very limited access to research and information that would support critical reflection.

Education institutions now fall into three major categories who distinguish their pedagogical model as either (i) 100% AI driven, (ii) AI/Human hybrid, and (iii) human centred. These models have differing roles for academics and educators and support different research agendas and political drivers. The goals and values relating to each of these differ substantively. The first presents itself as the highest quality, but there is an argument that it is self-serving, and seeks ultimately to improve the AI through further innovation. The second envisions a more augmented future where AI entities and humans co-exist and innovation provides mutual benefits and the third to the extent that it reluctantly embraces some AI does so to help address the most urgent human problems. The situation in 2033 is that these three models can co-exist in conflict within the same institution.

The overall trend is towards a deskilling of most humans, and a laziness in relation to knowledge acquisition and gaining qualifications because knowledge and skillsets reside elsewhere to be called upon via GoogleAI when needed. Whole industries have ceased to exist, and the attraction of increased leisure time has meant that humans have forfeited many productive and fulfilling activities and handed them to AI machines.

2033 feels like a last chance to arrest and reverse the downward spiral, a moment of transition in which the education system could help tip the future one way or another. The students, academics and educators working in the 'human centred' sector of the education system are making as much use as they can of ethical tools and technologies to fight a rearguard action. In this way they are seeking to portray and advocate for a positive future for humanity driven by equitable blended learning opportunities that embrace diversity and a vision for shared global solutions that address some of the drivers of geopolitical discord.

#### Scenario 4: 'Wishful thinking'. Negative AI in a positive Geopolitical context

The prolonged and protracted armed conflict in Eastern Europe and the realisation of its implications for international peace, stability, global security and economic prosperity has led to a paradigmatic change in relation to the increasing questioning of an important economic dogma by 2033, namely a shift away from economic growth.

In order to tackle the economic impact of the conflict, the West is increasingly seeking to reduce its over reliance on energy, raw materials and natural resources, which often need to be imported and





have tended to result in dependencies frequently necessitating difficult political and even moral foreign policy decisions regularly leading to tensions in domestic politics.

Governments in the West have also increasingly come under pressure from their citizens about needing to work towards the future of a liveable planet with more concerted efforts, which is increasingly seen to be incompatible with persistent economic growth.

In the emerging 'post-growth society' policy priorities include stronger international political collaboration, for example through a strengthened collaboration within the EU as a political entity, ecological justice, growth in resilience and, importantly, a focus on social equity through (digitally mediated) (transnational) education with the aim of protecting liberal democracy.

In order to achieve scale and sustainability, increasing use is made in the provision of (transnational) education of online and hybrid learning supported by generative AI.

Whilst AI is argued by its proponents, and the CEOs of the companies creating and monetising it, to have the potential of benefiting humanity, such as the ability to support more data-driven decision making, to drive efficiency gains or to pave the way for fulfilled employment, in reality the economic and social contextual factors determining the use of generative AI are such that the threats of AI to humanity are becoming increasingly tangible in 2033.

For the benefits to be realised, a fundamentally different context would be required, not the prevailing one driven by late capitalist neoclassical economic imperatives around profit maximisation and the attendant concentration of wealth and power and a rise in inequality, which – through features like redundancy of jobs or the promulgation of misinformation – is leading to a threat to liberal democracy. A context would be required, in which policy initiatives and technology utilisation focus on meeting human need and the protection of the natural world that sustains humanity.

A higher education system increasingly hollowed out by government mandated marketisation has become easy prey to the allure of companies trying to sell AI solutions (higher) education doesn't need for the purpose of profit maximisation and 'rent extraction'. AI poses increasing challenges and dangers to such a weakened education system: it threatens to seize human knowledge without permission and pay walling it off inside proprietary products and services threatening the livelihoods of many who have produced it, including academics and researchers as knowledge generators and teaching and learning material producers as well as mentors of learners. AI has started to fundamentally assault the roles and responsibilities of higher education professionals and the associated loss of professional status as agents orchestrating educational processes, gatekeeping ethical processes, ensuring privacy and security and fostering and facilitating human interaction.

As a result, AI has led to mass individualisation of education, step-based teaching, an erosion of human learning support and an assault on epistemological questions around what constitutes knowledge and how to critically interrogate it. For academics and higher education professionals it has meant increased precarity and objectification through 'cloud' and 'gig' work.

For higher education as knowledge organisations and researchers as knowledge workers, AI has started to decrease the value of knowledge generation as the demand for knowledge validated by humans has started to diminish. Research conducted, and knowledge and findings validated by humans are increasingly becoming a luxury in a world accustomed to AI 'hallucinations'.