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Is this what being a student today feels like?

A closed and fully planned ecosystem as higher education: *Could be both the on-campus model and the online model*



Double challenge:

ensuring the right skills are acquired and ensuring flexible pathways through learning systems



Universities UK is reviewing the future requirements for higher education and has focussed on the idea of new pathways:

"The linear model of education-employmentcareer will no longer be sufficient. The pace of change is accelerating, necessitating more flexible partnerships, quicker responses, different modes of delivery and new combinations of skills and experience. Educators and employers need to collaborate more closely, and develop new and innovative partnerships and flexible learning approaches."



Current labour market analysis of skills for jobs – shortages and surpluses

Abilities which are in shortage (+) or surplus (-) in the national labour market (average values across case study countries) based on OECD analysis

- Digital and information literacy
- Creativity
- Collaborative skills

Written Expression	0,023
Written Comprehension	0,020
Deductive Reasoning	0,019
Verbal Abilities	0,019
Fluency of Ideas	0,018
Inductive Reasoning	0,018
Oral Expression	0,018
Originality	0,018
Problem Sensitivity	0,016
Mathematical Reasoning	0,016
Reasoning Abilities	0,016
Oral Comprehension	0,016
Quantitative Abilities	0,014
Speech Clarity	0,013
Number Facility	0,012
Information Ordering	0,012
Speech Recognition	0,011
Category Flexibility	0 <mark>,01</mark> 0
Memorization	0 <mark>,00</mark> 9
Memory	0 <mark>,00</mark> 9
Flexibility of Closure	0 <mark>,00</mark> 8
Speed of Closure	0 <mark>,00</mark> 8
Near Vision	0 <mark>,0</mark> 06
Perceptual Abilities	0 <mark>,0</mark> 06
Auditory and Speech Ab	0,002
Selective Attention	0,002
Attentiveness	0,002
Visualization	0,002
Time Sharing	0,002
Perceptual Speed	0,002
Far Vision	0,001

Dynamic Flexibility	-	d	,001
Explosive Strength	-	d	,002
Visual Color Discriminat	-	d	,002
Spatial Abilities	-	0	,003
Hearing Sensitivity	-	0	,004
Visual Abilities	-	0	,004
Auditory Attention	-	0	,005
Night Vision	-	0	,006
Sound Localization	-	0	,006
Finger Dexterity	-	0	,007
Peripheral Vision	-	0	,007
Glare Sensitivity	-	0	,007
Gross Body Equilibrium	-	0	,007
WristFinger Speed	-	0	,008
Spatial Orientation	-	0	,009
Flexibility Balance and C	-	0	,009
Speed of Limb Moveme	-	0	,010
Gross Body Coordinatio	-	0	010
Depth Perception	-	0	,011
Reaction Time and Spee	-	0	,011
Dynamic Strength	-	0	,011
Physical Strength	-	0	,012
Endurance	-	0	012
Stamina	-	0	,012
Fine Manipulative Abilit	-	0	,013
Response Orientation	-	0	,013
Rate Control	-	0	,014
ArmHand Steadiness	-	0	,014
Reaction Time	-	0	015
Trunk Strength	-	0	,016
Control Movement Abili	-	0	,016
Extent Flexibility	-	0	,017
Manual Dexterity	-	0	,017
Control Precision	£	0	,018
Static Strength	-	0	,019
Multilimb Coordination	-	0	,020

Need to switch occupations based on future scenarios

- In advanced economies, one third of workers projected to need to change occupation by 2030
- In emerging economies less due to differences in economies (less complexity and lower wages) and infrastructure; one tenth of workers projected to need to change occupation by 2030

Globally, up to 375 million workers may need to switch occupational categories

Number of workers needing to move out of current occupational categories to find work, 2016–30 (trendline scenario)¹ Million (1 block = ~5 million)

- Additional from earliest adoption scenario
- Midpoint automation scenario





1 Some occupational data projected into 2016 baseline from latest available 2014 data.

SOURCE: U.S. Bureau of Labor Statistics; McKinsey Global Institute analysis

McKinsey Global Institute (2017): Jobs lost, jobs gained: Workforce transitions in a time of automation

New learning pathways – with skills connection and crossover

Figure 10. In the future, workers will need to return to learning throughout a 100-year work life. Human Skills for a 100-Year Work Life **Tech Skills**

Weise, M. R., Hanson, A. R., Sentz, R., & Saleh, Y. (2018). *Human + Skills For The Future of Work*. Strada Institute for the Future of Work. Retrieved from https://www.economicmodeling.com/wp-content/uploads/2018/11/Robot-Ready_Report_Single.pdf

AHEAD Study – Higher education landscape in 2030

Other foresight studies focus on future scenarios examine the question of what this institution could look like in 2030.

However, this question is not only dependent on demand, but also on the scope for shaping and re-forming higher education, which is determined by governance regulations such as laws, financing methods and quality assurance.

Therefore, the AHEAD study put **learners at the centre** of the concept.

-> download <u>here</u>.



Orr, D., Lübcke, M., Schmidt, P. Ebner, M., Wannemacher, K., Ebner, M., Dohmen, D. (2019). AHEAD – Internationales Horizon-Scanning: Trendanalyse zu einer Hochschullandschaft in 2030 – Hauptbericht der AHEAD-Studie. Arbeitspapier Nr. 42. Berlin: Hochschulforum Digitalisierung. DOI: 10.5281/zenodo.2677655

4 learning pathways through higher education

Model 1 - Tamagotchi (Status quo plus)



Model 2 - Jenga



Model 3 - Lego set



Tamagotchi: *Higher ed for a good start in life*

• A closed ecosystem built around the student





Jenga: Higher ed as a solid fundament for further development

 Providers offer a foundation of knowledge and competence which is extended by learners through shorter study blocks in their further learning pathway.





Lego: Higher ed as building blocks

 The course of study is not completed as a compact, long unit, but consists of individually combined modules of different sizes.





Transformer: *Higher ed as chance for transformation*

 The students in this model do not transfer directly to higher ed as school leavers, but have already acquired their own professional identity and life experience, which contribute to their studies.





Higher education for learners – **but how?**



[HIGHER EDUCATION]

Major goals for any reforms in higher education



- 1. Learners need to acquire *new skills and competences*, which enable them to fully benefit from the 'digital dividends' of technology
- 2. Study programmes need to *reflect on and react to* the developments in society and the labour market
- 3. Higher education institutions should be a place to consider and even *practice future social reform*, which can truly harness the benefits of digitalisation for all
- 4. The opportunities of digitalisation for creating *new learning spaces* should be harnessed to improve the accessibility and quality of educational provision