

Interdisciplinary Education for the Bioeconomy in discipline specific education

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The Bioeconomy is a complex being made up of many enterprises and consequently many different skills sets are required in the different enterprises





ON THE ROLE OF EDUCATION

Stress that based on the experts' assumption the BIOEAST macro-region insufficient human resources specialized in bioeconomy for higher education and academia is one of the main bottlenecks to accomplish the long-term climate goals.

▶ **Recognise** the need for structural reforms in education towards new transdisciplinary educational programs on sustainable bioeconomy.



Transdisciplinary education is education that **brings integration of different disciplines in** a harmonious manner to construct new knowledge and uplift the learner to higher domains of cognitive abilities and sustained knowledge and skills. It involves better neural networking for lifelong learning

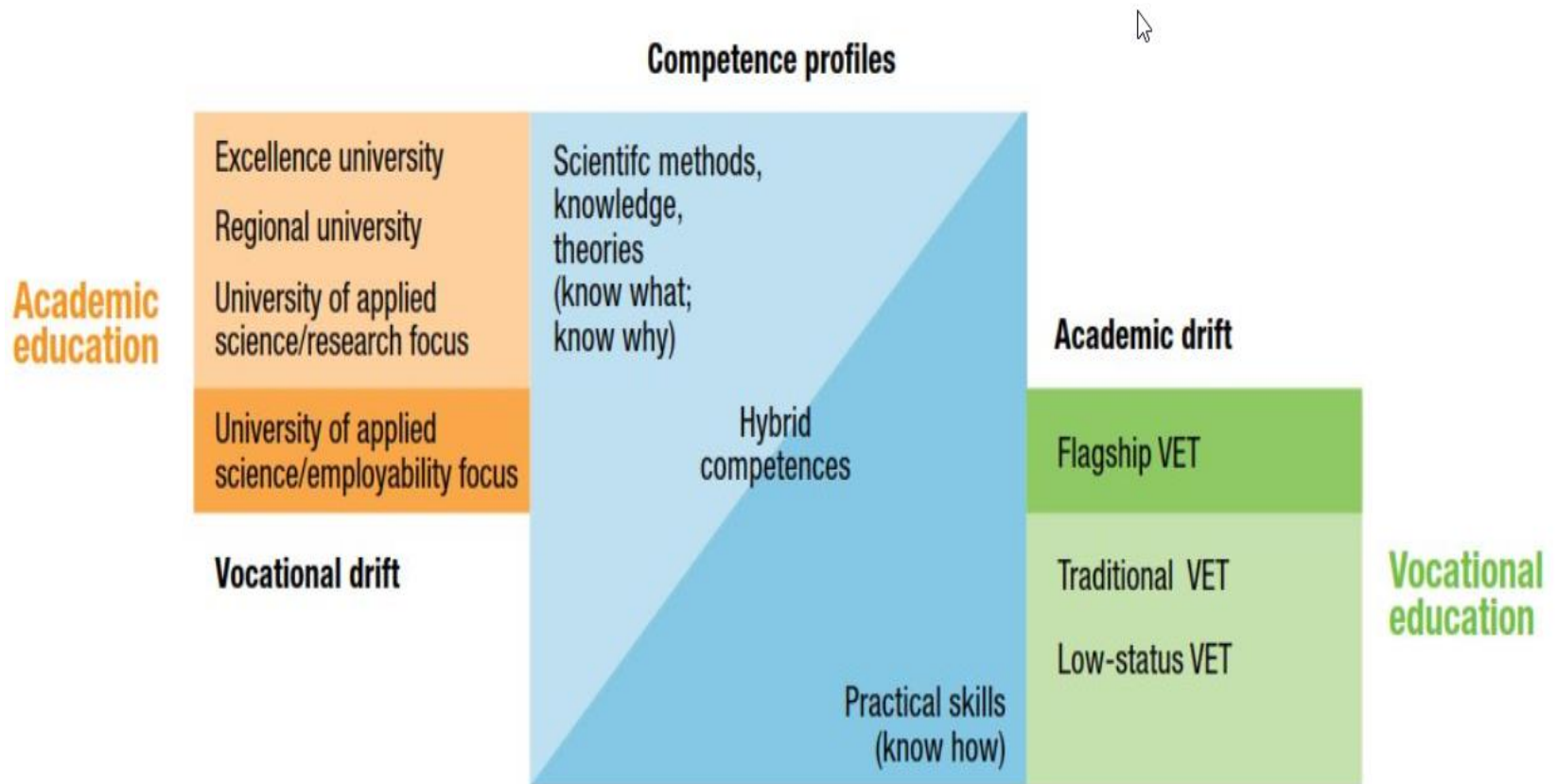
Sindhya, 2019

My basic question for discussion

How can we in our educational establishments ensure that our students when graduating, at whatever educational level, appreciate the context of their studies in the bigger picture of the bioeconomy, circular economy ... climate neutrality, maintenance of biodiversity

How do we ensure that they take the big picture to their careers in one particular field

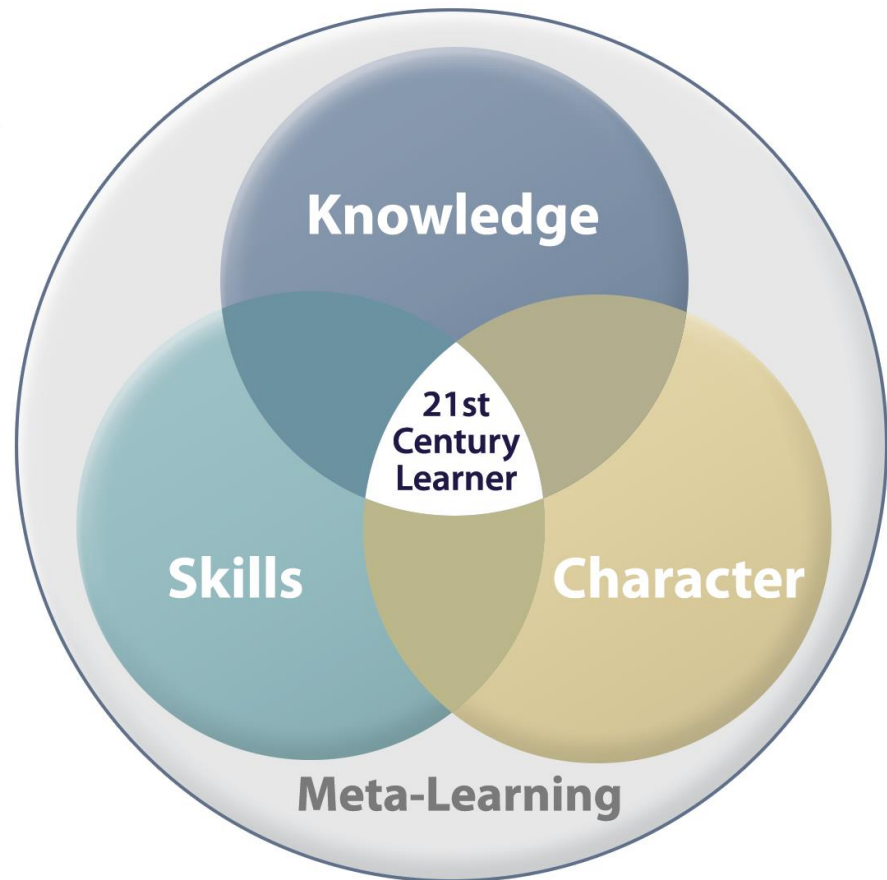
Recognise the contribution of the different educational levels to the bioeconomy

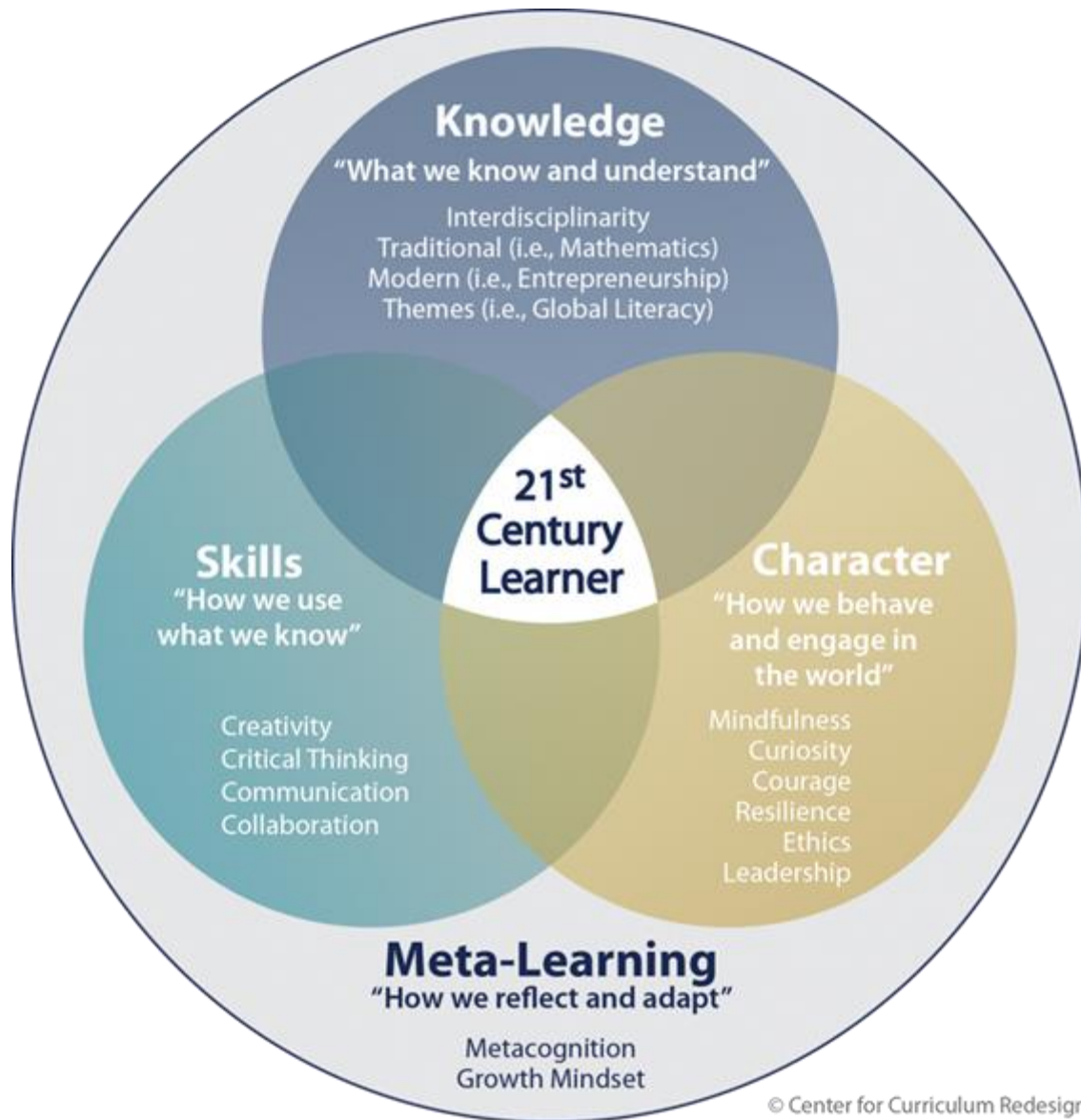


Source: Euler, D.(University St.Gallen).

In education increasing emphasis is being placed on developing the skills and character of our students alongside the development of knowledge and understanding

We need to define this construct for the 21st Century bioeconomy learner





Green Economy and Bioeconomy

The challenge for education is to develop the knowledge, skills and mindset of our students to shape and develop the sustainable bioeconomy within the circular economy.

To deliver biomass from agriculture, forestry and marine industries sustainably

To provide food that is nutritious, and textiles, paper, and raw materials for construction and furniture

To provide biomass feed for the biobased industries (biofuels, bio-based chemicals, bio-based plastics and biogas)

In all processes To minimise bio-waste

The Challenge

Not only do we need new domain specific studies and adaptation of existing domain specific studies to meet the demands of the different enterprises in the bioeconomy, but we also need:

- To define the common learning outcomes to be gained of the concept of the sustainable circular bioeconomy within all domain specific studies
- Then to define the learning trajectory for the delivery of these common learning outcomes across the domain specific studies – it must not be just an add on
- Then to engage staff to recognise and deliver those learning outcomes in their particular course(s) within a domain specific curriculum

EDUCATIONAL LEVEL



ICA Community of Practice for Bioeconomy Education

- **share experiences and good practices** among educational actors coming from different educational sectors and regional perspectives
- **consult with industry and stakeholders** about skills demands and expected educational outcomes
- **develop educational projects** to evaluate new educational materials, strategies and innovative training concepts



ICA CoP Bio-Edu to engage with BioEast Education Institutions

The CoP is connected to the Education Working Group of the European Bioeconomy Network (EuBioNet)

Webinar to share outcomes (actual and projected) of European funded Bioeconomy Education Projects with the education community November 2021

Interdisciplinary Education for the Bioeconomy Colloquium to be held at the Irish College in Leuven, Belgium from 12 – 14 January 2022

Summer School on the Circular Bioeconomy for Sustainable Development 2022

Development of Entrepreneurial skills of students for the bioeconomy

First International Conference on *Sustainable Entrepreneurship Education* will be held online on 25 and 26 November 2021 from BOKU, Vienna.

The Conference will *Blend the Three Colours of Sustainability, Entrepreneurship Education and Higher Education for Sustainable Entrepreneurship Education*. Download the [conference flyer](#) and register at the [project website](#)

The focus of the conference is to inspire and engage higher education teachers to embed Sustainable Entrepreneurship Education in degree programs

I return to my basic question – join us in this discussion at our events

How can we in our educational establishments ensure that our students when graduating, at whatever educational level, appreciate the context of their studies in the bigger picture of the bioeconomy, circular economy ... climate neutrality, maintenance of biodiversity

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Looking forward to engaging with you !!

Please email me to connect with the Community of Practice – Committee of the ICA Board

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Or go to ICA website www.ica-europe.info and “contact us”

