NextGEng

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International Cooperation Framework for Next Generation Engineering Students

Experiences of international co-teaching in a European higher education context

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TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

jamk

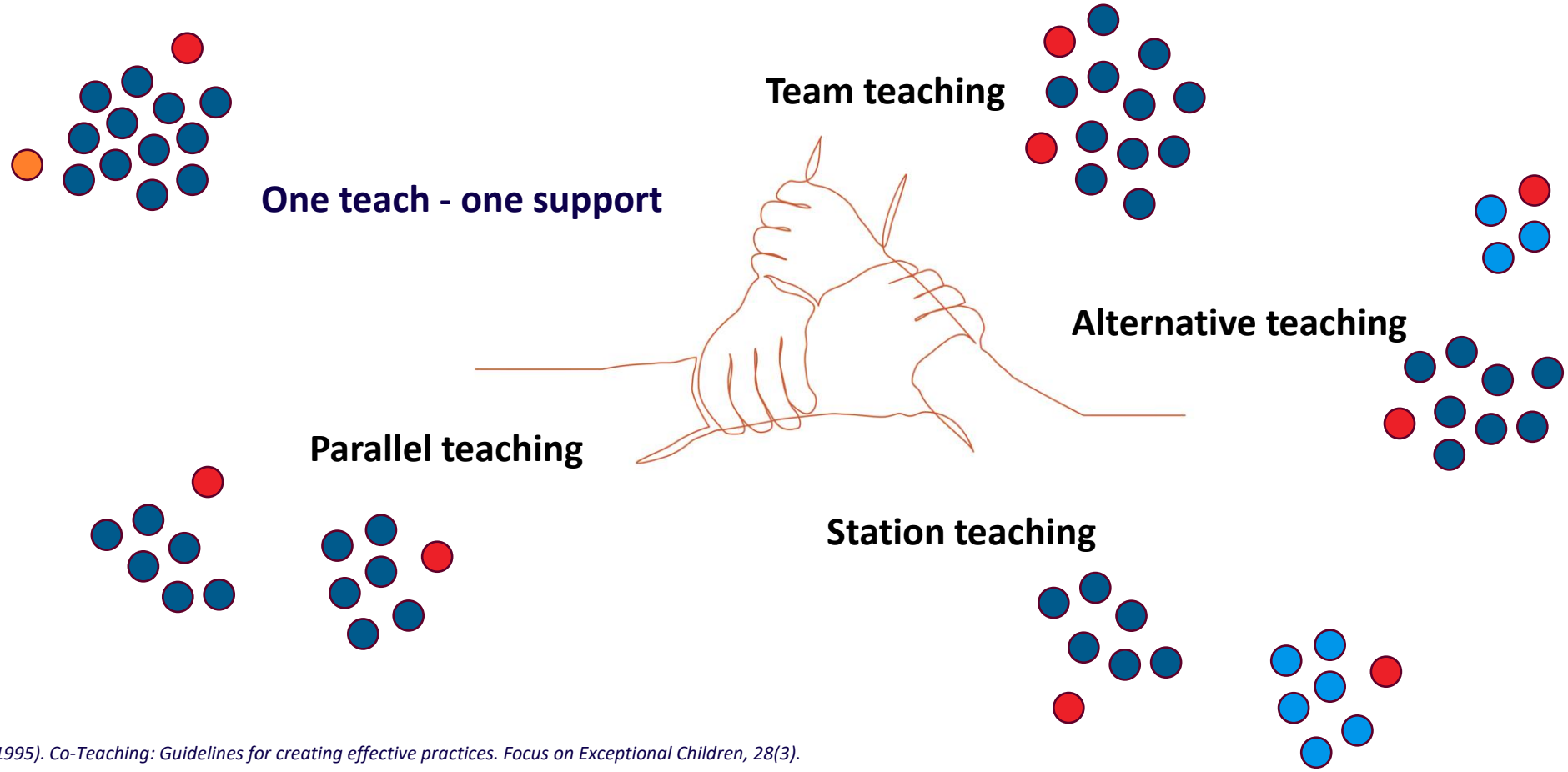
Universidad de Jaén

iSR www.isr.es

Valmet

BOSCH Invented for life

Methods of implementing co-teaching



Cook, L. & Friend, M. (1995). Co-Teaching: Guidelines for creating effective practices. Focus on Exceptional Children, 28(3).

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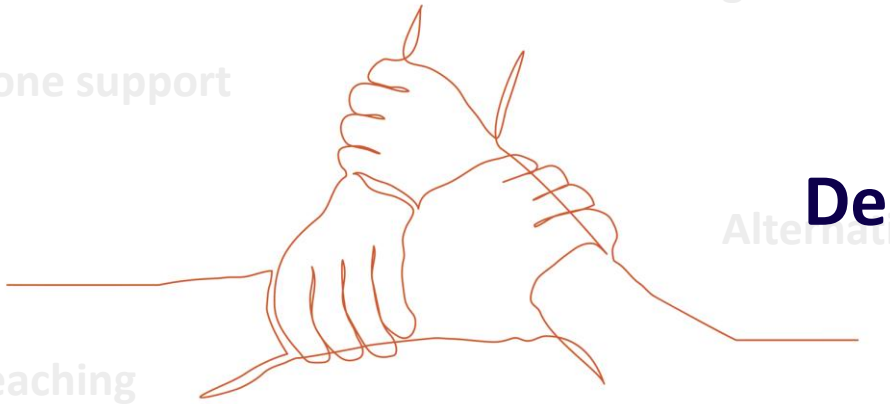
Collaboration as a driver of pedagogical change

Setting shared goals

Co-plannig



Debriefing among co-teachers

Interaction of co-teachers as part of active learning

Haag, K., Pickett, S.B., Trujillo, G. & Andrews, T.C. (2023). Co-Teaching in Undergraduate STEM Education: A Lever for Pedagogical Change toward Evidence-Based Teaching? CBE – Life Sci Educ March 1, 2023 22:es1. DOI:10.1187/cbe.22-08-0169

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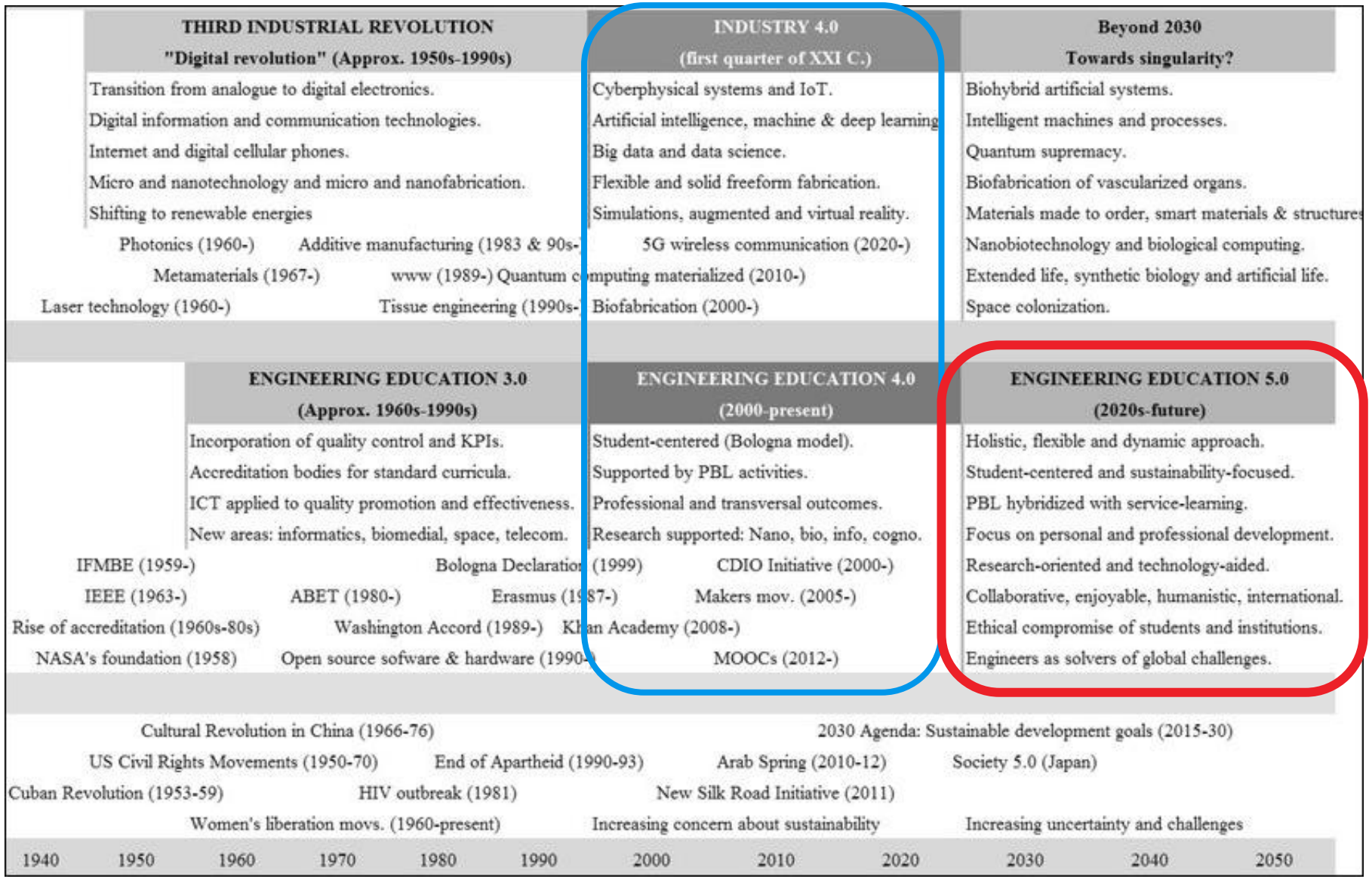
Focusing on engineering education 5.0



Diaz Lantada, A. (2020). Engineering Education 5.0: Continuously Evolving Engineering Education. International Journal of Engineering Education. 36. 1814-1832.

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Experiences of international co-teaching in a European higher education context

Projects that enabled my journey of co-teaching:

- NextGEng courses implemented Autumn 2023, Spring 2024
- NextGEng CEL projects Spring 2024
- HEIBuss-project 2018
- International Co-operation Project (ICP) implemented between Autumn 2009 –
- Teacher exchange program (Erasmus) from 2009 –

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Teacher exchange program (Erasmus) from 2009 - and NextGEng courses implemented Autumn 2023, Spring 2024

Long-term collaboration with European universities:

- Hochschule Esslingen - University of Applied Sciences, Esslingen Germany 2009-
- Universitete de Haute-Alsace, Mulhouse France 2010-
- University of JAEN, Campus Las Lagunillas S/N, Jaén Spain 2023 –
- Technical University of Cluj-Napoca, Romania 2019

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Expanding co-teaching toward collaboration between companies and higher education

Jamk – **Moventas** – HE Esslingen , HE Esslingen – **Festo** – Jamk, Jamk – **Valtra** – HE Esslingen, HE Esslingen – **Festool** – Jamk, HE Esslingen – **Kärcher** – Jamk, HE Esslingen – **Komet** – Jamk, HE Esslingen – **Heller** – Jamk, Jamk – **Pickval** – HE Esslingen, HE Esslingen – **Werner Bayer** – Jamk, Jamk – **Valmet** – HE Esslingen (ICP)

TUCN – **BOSH** – Jamk (HEIBus)

JUA – **ISR** – Jamk – TUCN, Jamk – **Valmet** – TUCN – JUA (NextGEng)

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Experienced ways of co-teaching

Teacher exchange program :

- Design of materials together or separately
- Lecture alone and one only to help with the language
- Separately, helping different groups of students with calculation exercises Lecture by one
- Together, assisting different groups of students in calculation exercises Lecture by one
- Lecture alone, but also discussing experiences with another teacher
- Lecture over the internet with students from another country

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Experienced ways of co-teaching

Projects:

- Separate lectures from different teachers based on their own strengths
- Creating project objectives and rules of the projects together or separately, comparing and summarising later
- Separately helping different project groups
- Together, helping different project groups
- Evaluations separately and comparisons separately or together
- Evaluations and comparisons jointly
- Allocation of areas of guidance according to teachers' strengths

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Good practices

- Requires strong trust
- Material on the templates of the target audience
- Good to have examples and applications also from the lecturer's own environment/culture
- If possible, an on-site guest lecturer who brings in a local lecturer to discuss the topic
- Lecturers jointly involved in helping students with their assignments/homework
- Objectives and evaluation criteria agreed jointly in projects and individually conducted evaluations compared together
- Project management together and separately, taking into account different views
- FLEXIBILITY

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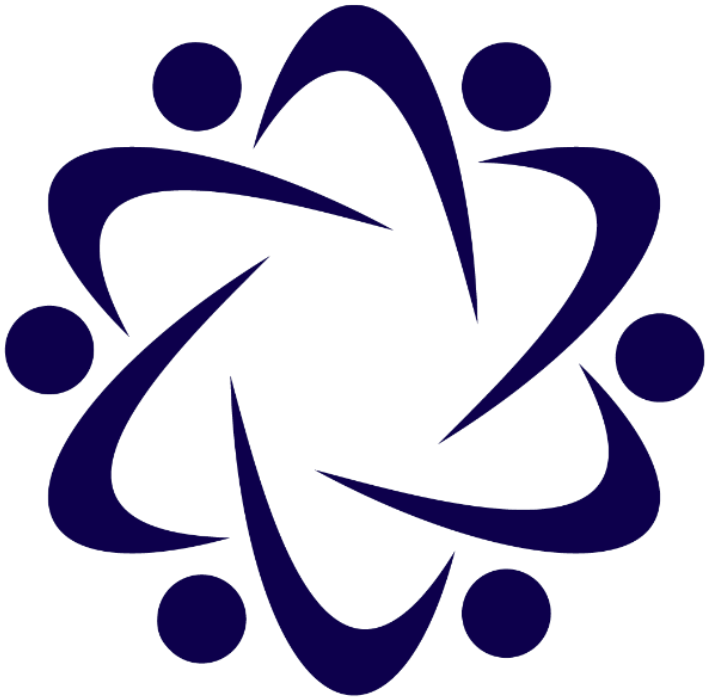

Thank you!