

# How Inclusive is a Curriculum?

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# Agenda

- Motivation
- Exercise
- Literature Review
- Discussion

Designing a curriculum is a complex task:

- Aligning with intended learning outcomes
- Navigating constraints: team capacity, educational context, technology, finances, ...
- Meeting quality requirements: regulations, standards, stakeholder expectations, ...

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**Inclusion** as a Quality Dimension

What do you think of when you hear / read *inclusive* ... ?



Let's Evaluate Assessment Design in the Curriculum

## Definitions <sup>1</sup>

- **Inclusion** is a *process* that helps overcome barriers limiting the *presence, participation and achievement of learners*.

**Influential factors** Many factors can work either **to facilitate or to inhibit** inclusive and equitable practices within education systems:

- teacher skills and attitudes, infrastructure, pedagogical strategies and *the curriculum*.

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<sup>1</sup>UNESCO (2017). *A Guide for Ensuring Inclusion and Equity in Education*.  
<https://unesdoc.unesco.org/ark:/48223/pf0000248254>

**Question** But, how a curriculum can hinder inclusion ?

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Maybe first we need to have a clear definition of a *curriculum*.

**Question** What is a curriculum?

# Curriculum (in Higher Education)

## Core idea

A **curriculum** is a **purposefully designed educational structure** that guides learners toward an **ultimate training goal** (outcomes/competencies).

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## Key characteristics

- **Goal-oriented structure:** what graduates should know and be able to do.
- **Structured pathways:** organises progression through **one or multiple paths** (e.g., core + electives/specialisations) to reach the goal.
- **Building blocks:** decomposes the programme into **courses/modules**:
  - *Content* (topics/knowledge base),
  - *Learning activities* (lectures, labs, projects, tutorials),
  - *Assessment* (methods to evaluate achievement of learning outcomes).

# Motivation

**Inclusion in Curriculum** A curriculum that **diversity of needs** are taken into account:

*all learners participate and achieve equitably together*



**Diversity:** variation among individuals in characteristics such as personality, *cognition*, *abilities*, background, and identity.

**Diversity in Education:** *variation* in how students **learn, communicate, cope with stress, and demonstrate competence.**<sup>2</sup>



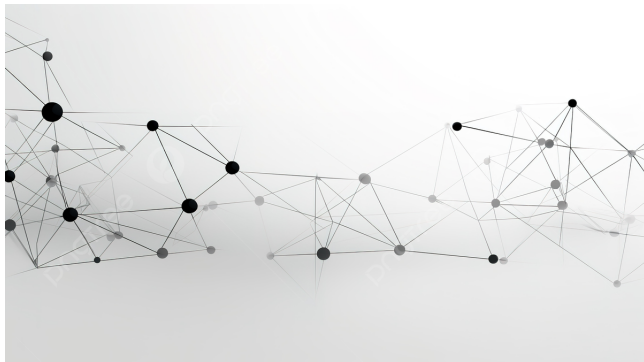
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<sup>2</sup>OECD (2019). *Educating Diverse Learners*.

# Higher Education in CS/SE

CS/SE education values *abstraction*, *precision*, and *collaboration*:

- Assessments: vary in **social demand**, **time pressure**, and **ambiguity**.
- Different student profiles *respond differently to these demands*.



Assessments amplify certain strengths and suppress others:

- Direct impact on motivation and participation
- A student may be:
  - A strong programmer but weak in oral exams.
  - A talented problem solver but socially selective (in interaction style).
  - A creative collaborator but vulnerable in timed tests.
- What we assess determines who appears (or feel) “successful”

**Question** Do you have examples? <sup>3</sup>

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<sup>3</sup>Check an example (click here).

# Big Five Personality Traits

Digman summarizes personality as <sup>4</sup>:

- Openness: intellectually curious, imaginative, creative, and enamored by aesthetic experiences.
- Conscientiousness: refers to a person's tendency toward being self-controlled, persistent, industrious, and orderly.
- Extraversion: implies positive emotions, activity, sociability, and the tendency to seek stimulation in the company of others.
- Neuroticism: vulnerability to unpleasant emotions such as anxiety, anger, and depression.
- Agreeableness: manifested as differences in being likable, pleasant, and harmonious in relation with others.

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<sup>4</sup>Digman, J. M. (1990). *Personality structure: Emergence of the five-factor model*. *American Psychologist*, 45(2), 417–440.

Some research shows <sup>5</sup> that:

- The level of anxiety is lower in paper-based examinations:
  - Junior students introductory programming course
- Female students tend to experience higher test anxiety than male students
  - Although they prepare more.

In SE education, automatic assessments are common, but:

- it may contribute to higher anxiety levels.
- suggestion: instructors should consider blending assessment methods to support student performance.

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<sup>5</sup>Tomić et al. "Students' Test Anxiety and Performance in Introductory Programming: Do Exam and Assessment Modalities Play a Role?", 2025

# Personality and Team Performance

More studies available:

- Overall, conscientiousness strongly predicts academic performance.
- Extraversion benefits interactive (team projects) and oral formats <sup>6</sup>.
- Team projects work well with complementing personalities <sup>7</sup>.
  - Poorly designed teamwork penalizes some student profiles.



<sup>6</sup> Liang et al. Influence of Personality and Motivation on Oral Presentation Performance (2018)

<sup>7</sup> Monaghan et al. "Performance of student software development teams: the influence of personality and identifying as team members" (2015)

**Idea!** Changing all the assessments to Oral Examinations?!



# One Size Fits All?

- Evidence strongly suggests: **No**.
- Different students need different ways to demonstrate competence.
- Inclusiveness emerges across the curriculum, not per course.

## Challenges in Designing an Inclusive Curriculum in HE?

Assessments are crucial:

- Abstract away from content.
- Focus on assessment types only.
- Use colors to visualize diversity.
- Ask: how colorful is the curriculum?

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Check:

- Are years dominated by one assessment type?
- Distributed of the assessment types over the whole study?
- Are high-stakes moments overly concentrated?

# Some Guidelines

- Balance individual, pair, and team assessments.
- Mix timed and extended formats.
- Combine private and social demonstrations.
- It is about **variety over four years**.

In the journey there must be moments for **everybody** to shine

# Conclusion

Check:

- Which student profiles are not considered?
- Where do we create unnecessary barriers?
- What small changes could add new “colors”?
- How do learning activities influence?

## The Core Message

Make your curriculum more colorful (inclusive)

Thank you all.

