ICT Switzerland Meeting
August 20th, 2019

The Challenge

With business as usual, by **2030** half of the world's youth

will **not** have the skills they need

to succeed in work and life*

The Jobs Landscape in 2022

emerging roles, global change by 2022

133 Million

Top 10 Emerging

1. Data Analysts and Scientists
2. AI and Machine Learning Specialists
3. General and Operations Managers
4. Software and Applications Developers and Analysts
5. Sales and Marketing Professionals
6. Big Data Specialists
7. Digital Transformation Specialists
8. New Technology Specialists
9. Organisational Development Specialists
10. Information Technology Services
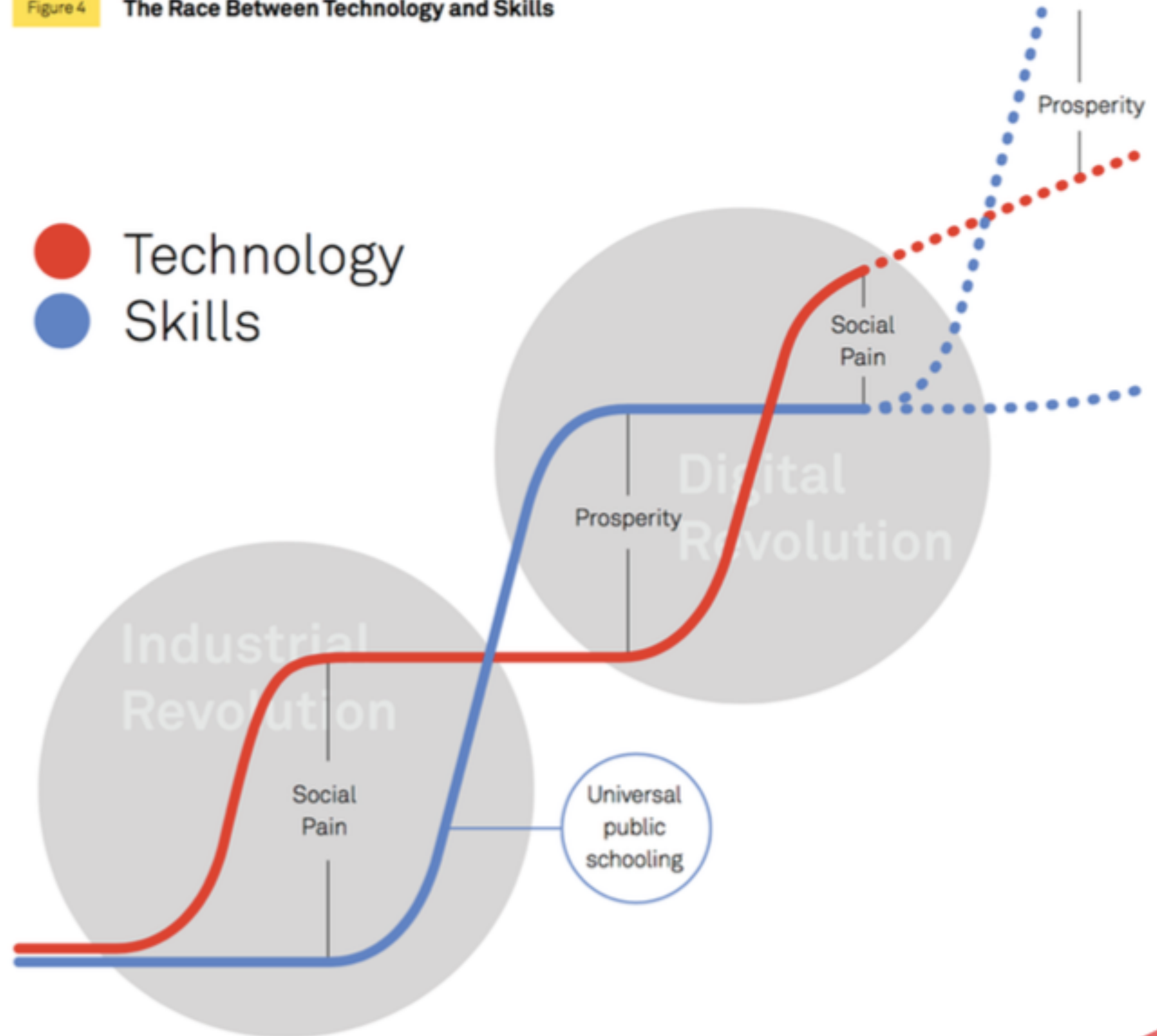
declining roles, global change by 2022

75 Million

Top 10 Declining

1. Data Entry Clerks
2. Accounting, Bookkeeping and Payroll Clerks
3. Administrative and Executive Secretaries
4. Assembly and Factory Workers
5. Client Information and Customer Service Workers
6. Business Services and Administration Managers
7. Accountants and Auditors
8. Material-Recording and Stock-Keeping Clerks
9. General and Operations Managers
10. Postal Service Clerks

Source: Future of Jobs Report 2018, World Economic Forum
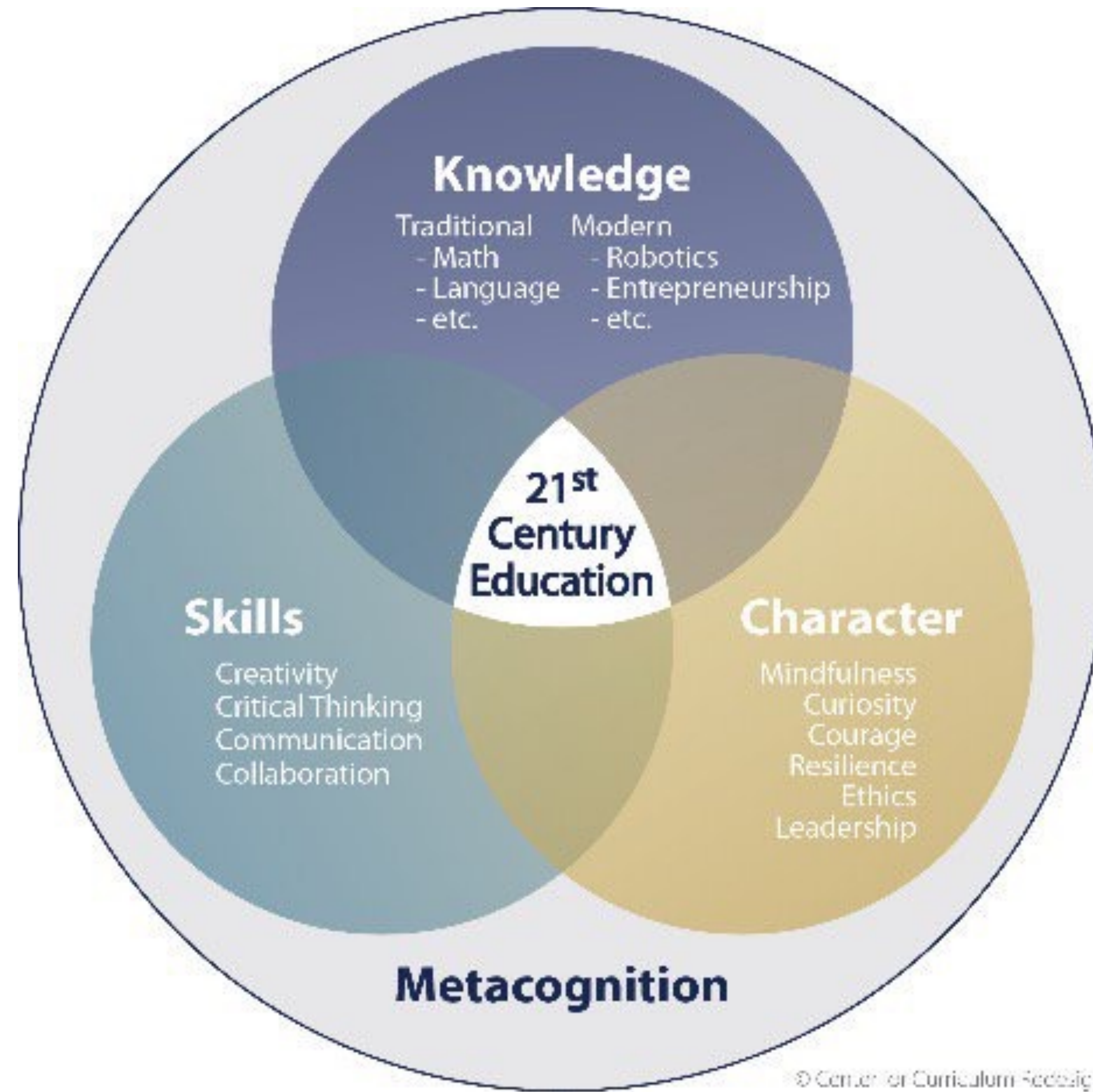
Figure 4 The Race Between Technology and Skills

Source: Andreas Schleicher. "Skills: Global Trends, Challenges, and Opportunities." Presentation,

we are play lab

How might we reengineer learning in the 21st century?

we are play lab

Knowledge

Traditional   Modern
  - Math   - Robotics
  - Language   - Entrepreneurship
  - etc.   - etc.

21st Century Education

Skills

Creativity
Critical Thinking
Communication
Collaboration

Character

Mindfulness
Curiosity
Courage
Resilience
Ethics
Leadership

Metacognition

© Center for Curriculum Redesign

we are play lab

COMPUTATIONAL THINKING

NEW WORDS

Decompose

Say it with me:
De-com-pose

Break a problem down into smaller pieces.

Algorithm

Say it with me:
Al-go-ri-thm

A list of steps that you can follow to finish a task.

Pattern Matching

Say it with me:
Pat-ern Mat-ching

Finding similarities between things.

Abstraction

Say it with me:
Ab-strac-shum

Pulling out specific differences to make one solution work for multiple problems.

we are play lab

By supporting the key stakeholders in the life of a child
with convenient, affordable and actionable insights
on 21st century skills, attitudes and knowledge,
we can empower children
to fulfil their potential

Pilot Project Switzerland

we are play lab

SPOTLIGHT 2019

Spotlight Schweiz Digitale Transformation in der Schule

Spotlight Schweiz sucht inspirierende Lehrpersonen der Kindergarten-, Primar- und Sekundarstufe, die die digitale Transformation gemeinsam mit ihren Schülerinnen und Schülern als Chance ergreifen, um neue Wege zu beschreiten und Methoden und Arbeitsinstrumente im schulischen Alltag auszuprobieren. Die zehn überzeugendsten Projekte mit Vorbildcharakter werden von einer Experten-Jury ausgewählt und erhalten insgesamt 120'000 Franken Unterstützungsgelder für die Weiterentwicklung. Die ausgewählten Projekte werden in kurzen Videos dokumentiert und im Rahmen des Campus Seminars am 30. Oktober 2019 in Zürich sowie am HundrED Innovation Summit in Helsinki vom 6. bis 8. November 2019 vorgestellt.

we are play lab

PROJECT SQUARE

An open education initiative
on a mission to develop digital competences in kindergartens,
primary and secondary schools, beyond the screens.
It provides new models for the creation of pedagogical material
and curriculum-aligned activities,
as well as a network of co-creators and users.

PROJECT SQUARE

It is created in a national, interdisciplinary setting - in close collaboration with educators, experts and researchers from the leading Swiss scientific and education institutions SUPSI, EPFL LEARN, ETH Zurich,
and Universities for Teachers Education (PHs).
It is research driven and builds on frameworks from learning sciences, computer science, interaction design and high impact entrepreneurship.

we are play lab

we are play lab

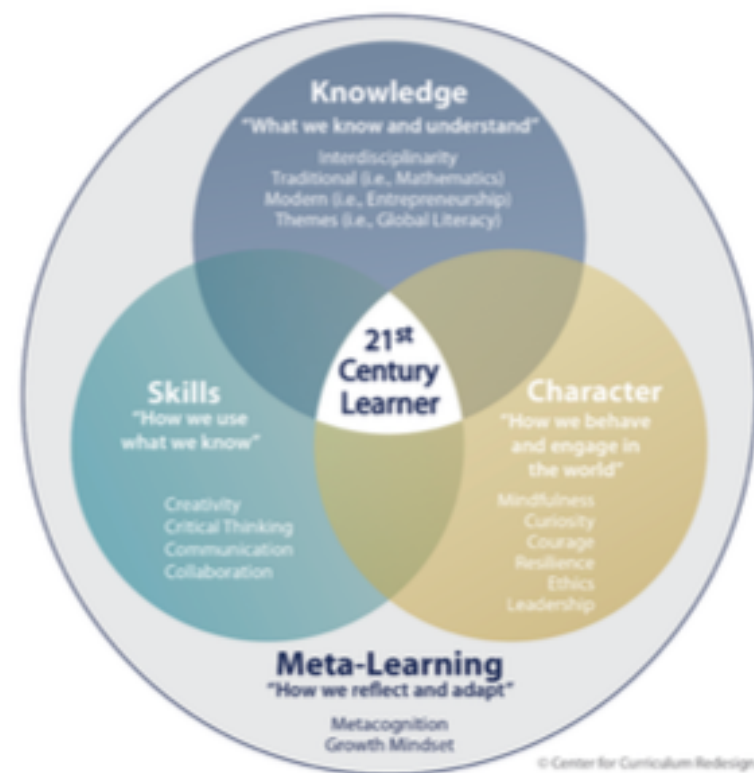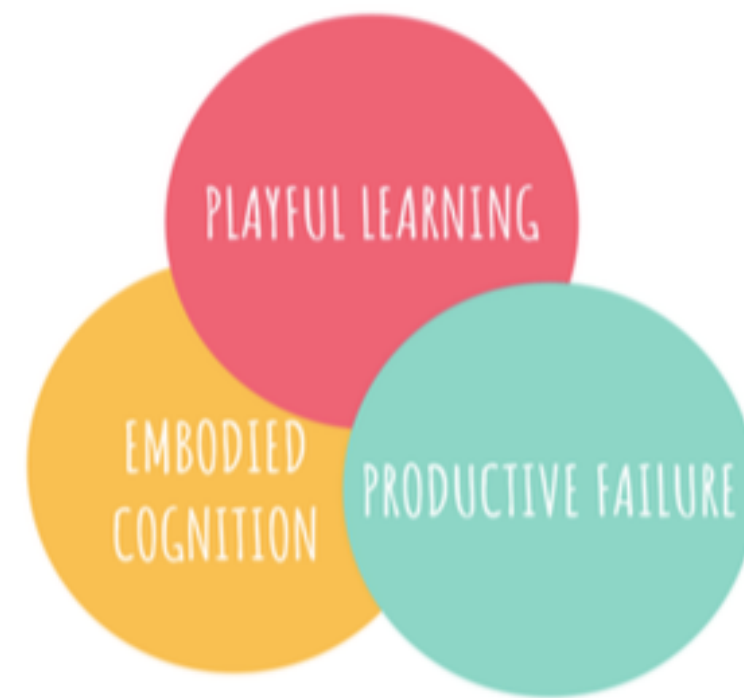# PROJECT SQUARE

It empowers Swiss kindergarten, primary and secondary school teachers and students - especially girls - to become digitally competent by understanding and practicing computational thinking and understanding key concepts of computer science with motivation and in the most efficient way, in their everyday environment through immersive, creative and engaging learning experiences.

PROJECT SQUARE

The v.1 playful learning starter kit for computational thinking and algorithm design contains a set of physical materials (27 tiles with 3 parameters: 2 shapes, 3 colors, 6 forms) and a set of activities (beginner to advanced levels) focusing on demystifying algorithms and computational thinking, beyond the screens.
The kit is a unique combination between scientific skills in computer science, research in education, competence in design and disruptive innovation.

we are play lab

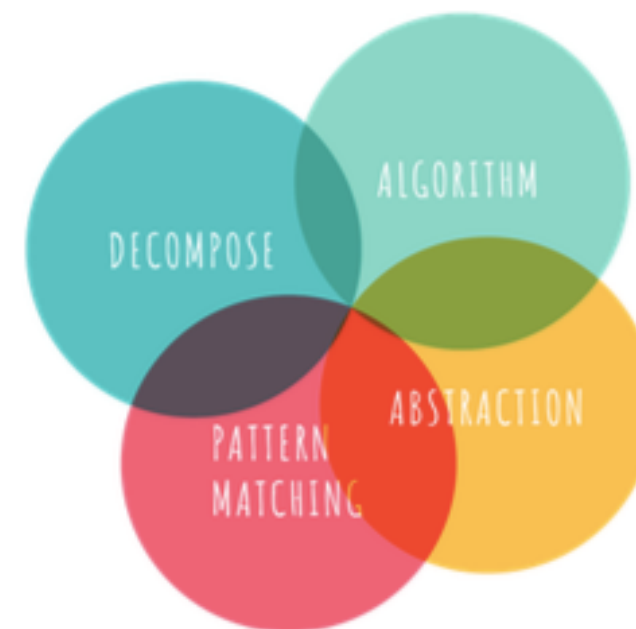PLAYFUL LEARNING

EMBODIED COGNITION

PRODUCTIVE FAILURE

Step into the Future

Transform your classroom into a futuristic city where students easily practice computational thinking without screens.

Discover Square City

Knowledge
"What we know and understand"

Interdisciplinarity
Traditional (i.e., Mathematics)
Modern (i.e., Entrepreneurship)
Themes (i.e., Global Literacy)

21st Century Learner

Skills
"How we use what we know"

Creativity
Critical Thinking
Communication
Collaboration

Character
"How we behave and engage in the world"

Mindfulness
Curiosity
Courage
Resilience
Ethics
Leadership

Meta-Learning
"How we reflect and adapt"

Metacognition
Growth Mindset

© Center for Curriculum Redesign

DECOMPOSE

ALGORITHM

PATTERN MATCHING

ABSTRACTION

Computational Thinking

Simply put, computational thinking is an approach to solving a problem in a way that can be communicated to a person or a computer. You are using computational thinking when you plan a trip or create a game.

Let's invent a game.

Algorithms
Let's write a step by step plan with game instructions.

Decompose The Problem
Which are the important elements of the game?

Pattern Recognition
Any elements from other games we could use?

Abstraction
How to create activities for the game cards?

Technology can sometimes be overwhelming to understand but it does not have to be. You got this!
Your turn now. What game could you invent?

PROJECT SQUARE

CC BY-NC-SA
WWW.PROJECTSQUARE.CC
WAP.ROCKS

PROJECT SQUARE

For advanced users, the starter kit
introduces Project Square's overarching narrative of Square City – a futuristic
city inhabited by creative citizens who solve community challenges
collaboratively- as a means of knowledge transfer to the real world and as a
way of stimulating co-creation of activities.

Step into the Future

Transform your classroom into a futuristic city where students easily practice computational thinking without screens.

PROJECT SQUARE

Pilot projects have started with first classes of CSVR (15 schools, 2300 students, and 230 teachers) and10 schools in Canton Vaud (120+ classes). First activities with Technorama are planned for October.

Based on the learnings from these pilots, next year a v.2 playful learning kit as well as a playbook for educators will be released, scaling it up in schools across Switzerland.

we are play lab

We are just getting started and need your support

so that we can make 21st century skills accessible to **communities** across Switzerland and beyond.

We Are Play Lab Foundation is registered as nonprofit. Donations are tax-deductible in Switzerland.

we are play lab

PROJECT SQUARE

You can support by funding co-creation workshops for Square activities (CHF 1'500), the playbook for educators or the website v.2 production.

You can join with your teams as co-creators of computational thinking activities in Square City .

Cristina Riesen
Founder and CEO
former Evernote EMEA GM

Serena Cangiano
Advisory Board
Interaction Design
SUPSI Lugano

Pascale Vonmont
Advisory Board
Gebert Rüf Foundation
Digital Switzerland

Francesco Mondada
Advisory Board
Robotics
EPFL Lausanne

Manu Kapur
Advisory Board
Chair of Learning Sciences
ETH Zurich

THANK YOU

Cristina Riesen

Founder and CEO We Are Play Lab

cristina@weareplaylab.net

+41 79 40 50 838

we are play lab

www.wap.rocks