

Business in Transformation: Social and Sustainability Challenges Lab

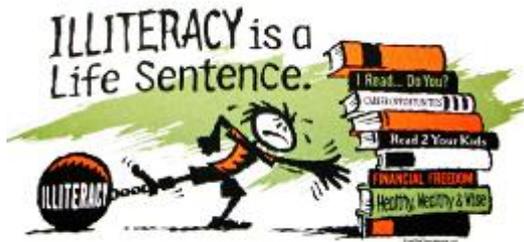
Education and Skills Gap



POLITECNICO
MILANO 1863

DIPARTIMENTO DI
INGEGNERIA GESTIONALE

Education and Skills Gap: Problem setting



Illiteracy (Narang et al. 2014)



School failure and abandonment (Oliveira & Breda-Va'zquez 2012)



Skills gap and employability (Mishra 2014):

Education and Skills Gap: Problem setting

1. ACCESS

- Education EXCLUSION in low income communities/developing countries
- Access to NEW SKILLS: Life long learning

2. EFFICIENCY and EFFECTIVENESS

Early School LEAVING, Absenteeism and Poor Performances

3. SUSTAINABILITY

MATCHING between Work Opportunities and Teachings Offering

ACCESS

- **Universal access** to education is the **ability of all people to have equal opportunity in education** regardless of their social class, gender, ethnicity background or physical and mental disabilities.
- **Lack of educational access**, and securely acquired knowledge and skills, **is part of the definition of poverty.**
- Access to meaningful learning is critical to:
 - long term **improvements in productivity**;
 - **reduction** of inter-generational cycles of **poverty**;
 - demographic transition;
 - preventive health care;
 - **empowerment of women**;
 - **reductions in inequality**

EFFICIENCY and EFFECTIVENESS

- The definition of “**Early School Leaving**” used at EU level refers to “those **young people who leave education and training with only lower secondary education or less**, and who are no longer in education and training”.
- Early school leaving is a **multi-faceted and complex problem** caused by a cumulative process of disengagement. **It is a result of personal, social, economic, education or family-related reasons.**
- Early school leaving has serious individual, social and economic consequences:
 - Early school leavers are **more likely to be unemployed.**
 - If employed, early school leavers are more likely to work in jobs with **less employment security** or to work part-time.
 - They earn less and face a **higher risk of poverty and social exclusion.**
 - Due to their disadvantage on the labour market, early school leavers **are more dependent on social support** throughout their lives.
 - Early school leavers tend to **participate less** in elections or other **democratic processes.**

SUSTAINABILITY

- **Sustainability** means:
 - **Spending efficiently** enough money to ensure the best quality of education offerings;
 - **Ensuring a “return”** on this spending by reducing unemployment rate thanks to an **educational offering aligned to market needs**.
- For society as a whole the persistence of a skills gap:
 - entails a misallocation and waste of scarce funds;
 - poses a threat to the employability of large segments of the population.
- For companies it can hamper enterprise productivity and innovation, leading to a loss of competitiveness.

Education ad Skills Gap: BRIDGE INTERNATIONAL ACADEMY – SOCIAL FRANCHISING



53,962 *pupils* enrolled

134 *academies* built

1,834 *academy staff* employed

13,000 hours of *curriculum* scripted

1,594 e-learning *tablets* deployed

UP TO 200% HIGHER ACADEMIC PERFORMANCE

[Click here for job opportunities](#)



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Education and Skills Gap: BRIDGE INTERNATIONAL ACADEMY – SOCIAL FRANCHISING

The context:

Providing education to Africa's poorest has historically been the domain of governments and charities. However, Kenyan government struggled to keep up with booming enrolment rates.

The problem:

Low quality of state-funded schools in Africa.

Families living on \$2 a day per person or less

The solution:

- BIA is a network of low-cost private schools intended for poor people in developing countries.
- It follows a standardized Internet-based education model to streamline costs and allow for scalability.
- It is a for profit Social Enterprise
- 300 primary schools serving 100,000 students in Kenyan slums and villages.

<http://www.bridgeinternationalacademies.com/about/what-we-do/>

Education and Skills Gap: BRIDGE INTERNATIONAL ACADEMY – SOCIAL FRANCHISING

Actors involved:

- Social Enterprises (Managers, Educators).
- Parents and Pupils
- Many social/traditional investors (\$100 millions into the company, 90% is equity investments).

Economic model:

Inclusive economy. The “**Academy in a Box**” model is based on standardized systems and procedures that can be replicated across new locations with very low costs and increase the quality of education.

Enabling technology:

Across All Classes



Tablets

Tablets don't just display scripted lessons, they also record attendance and assessment scores and track lesson pacing and pupil comprehension in real time thanks to our proprietary software.



Smartphones

Our smartphone application allows Academy Managers to seamlessly sync their academy's tables, pupil admissions, tuition payments, instructional monitoring, and more with Bridge headquarters.



Storybooks

Storybooks are locally developed using characters and situations with which pupils can relate. We have a range of storybooks for every Bridge International Academies class from Nursery to Upper Primary.



Homework books

Homework books provide pupils with a review of their day's lessons, a place to do their homework, and a way to show their parents what they've learned and how much they've progressed.



Signals

Acronyms, signals, and other nonverbal communications for classroom routines enforce positive behavioral management. We also use a variety of instructional songs.

Early Child Development



Slates

We provide all ECC pupils with slates. These miniature chalkboards allow pupils to practice writing without the need for paper, which can be cost-prohibitive to parents.



Colored counters

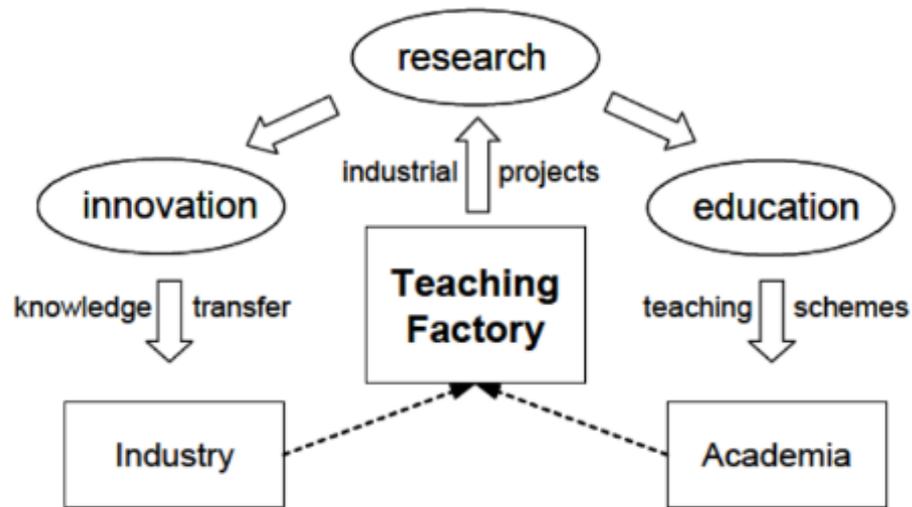
Colored counters, which are essentially bottle caps and their plastic rings, are used to teach color recognition, fine motor skills, counting, and other basic mathematical concepts.



Ten frames

Repurposed egg cartons serve as ten frames, grounding pupils in early counting skills in base 10 and explaining concepts like counting, addition, subtraction, and even fractions in a natural setting.

Education and Skills Gap: THE TEACHING FACTORY



(Chryssolouris et al. 2013; Rentzos et al., 2014)

Education and Skills Gap: THE TEACHING FACTORY

The context:

Despite unemployment, in the EU, as well as in the US, finding the right candidates to fill particular vacancies-especially for jobs requiring the use of new advanced technologies- is still very difficult.

The problem:

- Mismatch between supply and demand of knowledge and skills.
- Difficulties in disseminating, taking up and exploiting research results in industry.

The solution:

• ***Factory to Classroom:***

Students in the classroom act as the knowledge “receivers”

On the industry side, engineers introduce and present real shop floor problems

Student projects are launched on the basis of the shop-floor problems

• ***Lab to Factory:***

Engineers at an industrial site act as the knowledge “receivers”

Academic facilities provide the test-bed for presenting and demonstrating research results.

New solutions to industrial problems are investigated on the basis of these results.

(Chryssolouris et al. 2013; Rentzos et al., 2014)

Education and Skills Gap: THE TEACHING FACTORY

Actors involved:

- Students
- University (Researchers, Professors)
- Companies

Economic model:

Public-Private – Co-funding by multiple sources

Enabling technology:

Its infrastructure includes all the required equipment either in physical or digital mode in order to realistically simulate a real-life working factory.

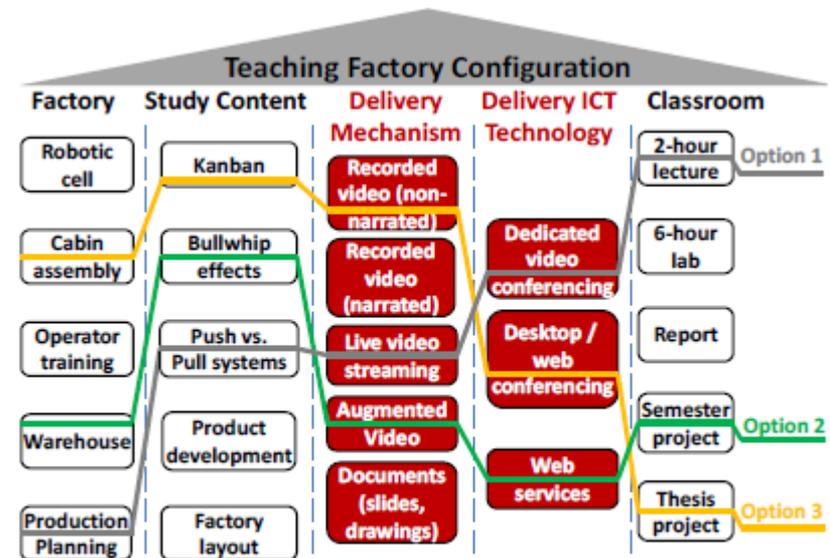
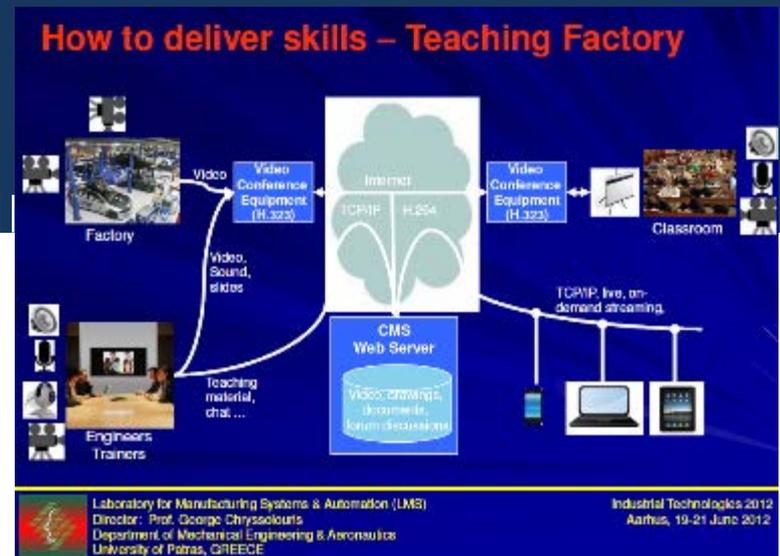


Fig. 2: Multiple layout options for factory-to-classroom operations

(Chryssolouris et al. 2013; Rentzos et al., 2014)