

E d u c a t i o n

Facilities

“...the environment consists of those conditions that promote or hinder, stimulate or inhibit the characteristics of a living being”

John Dewey

Enabling Physical Teaching and Learning Environment for South African public schools

Overview : Enabling Physical Teaching and Learning Environment

- Background
 - Investment vs. Outcome
 - Identifying the issue
- Key features of enabling environment
- Learning environment models
 - Classroom
 - Learning studios
- 21st century schools
- Way forward

Background

- **Education** is the key priority of the South African Government : 2009 -2014
- **Education ,training and innovation :**
 - are core elements to eliminating poverty and reducing inequality.
 - are Foundations of an equal society
- **Education** gets the largest slice of government spending

Education Budget 2011	R 33.9 billion			
Department Basic Education	R 8.2 billion (Mostly spent on infrastructure)			
Busaries	R596 million			

Background

- Department of Education Strategic objective:
 - Ensure that key **quality education** is provided to all South African schooling systems
 - To achieve this objective the department has put policies in place:

Not yet adopted

1. **National Policy for equitable provision of Enabling school physical teaching and learning environment**
2. **National Minimum uniform Norms & Standards for school infrastructure**
3. **Accelerated School Infrastructure Delivery Initiative (ASIDI)
2010 -2014**

INVESTMENT IN EDUCATION (17 years)

Improved access to
education

BUT

No significant
OUTCOME

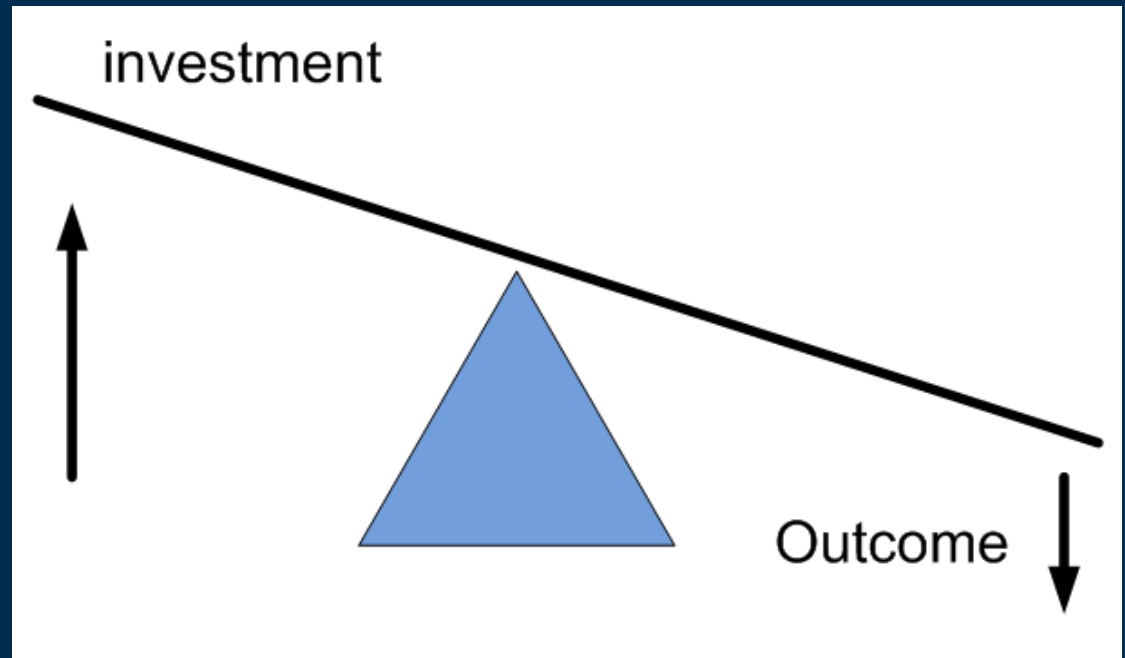
despite massive shift of
resources to poorer school

Outcome remains
lower than other
Southern African
countries

Why?

Is this a risk in
investment?

Investment vs. Outcome



Identifying the ISSUE

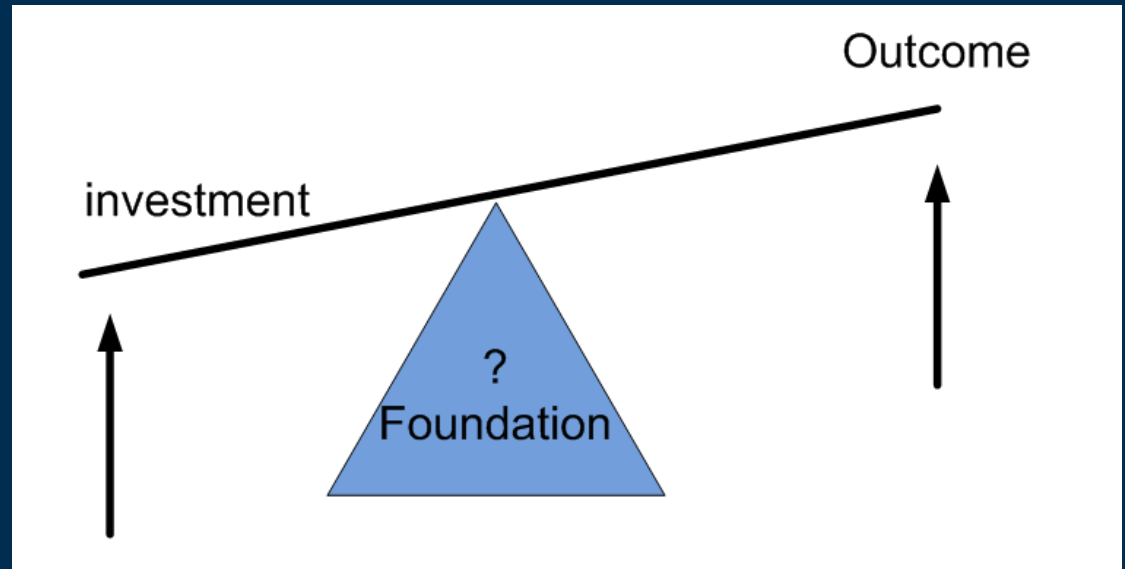
Department of Education

Identified 2

INSTITUTIONAL FACTORS

that impact on learners'
and teachers'
performance

1. Condition of school facilities
2. Physical environment that does not enable effective implementation of the core policies



Learning environment research (LER)



Mud hut schools : EC _UNESCO



Standard design of provincial school :
DHP Secondary school, GP_CSIR



Mud schools : Cetshwayo
Primary school, EC _Z.Vavi/IOU

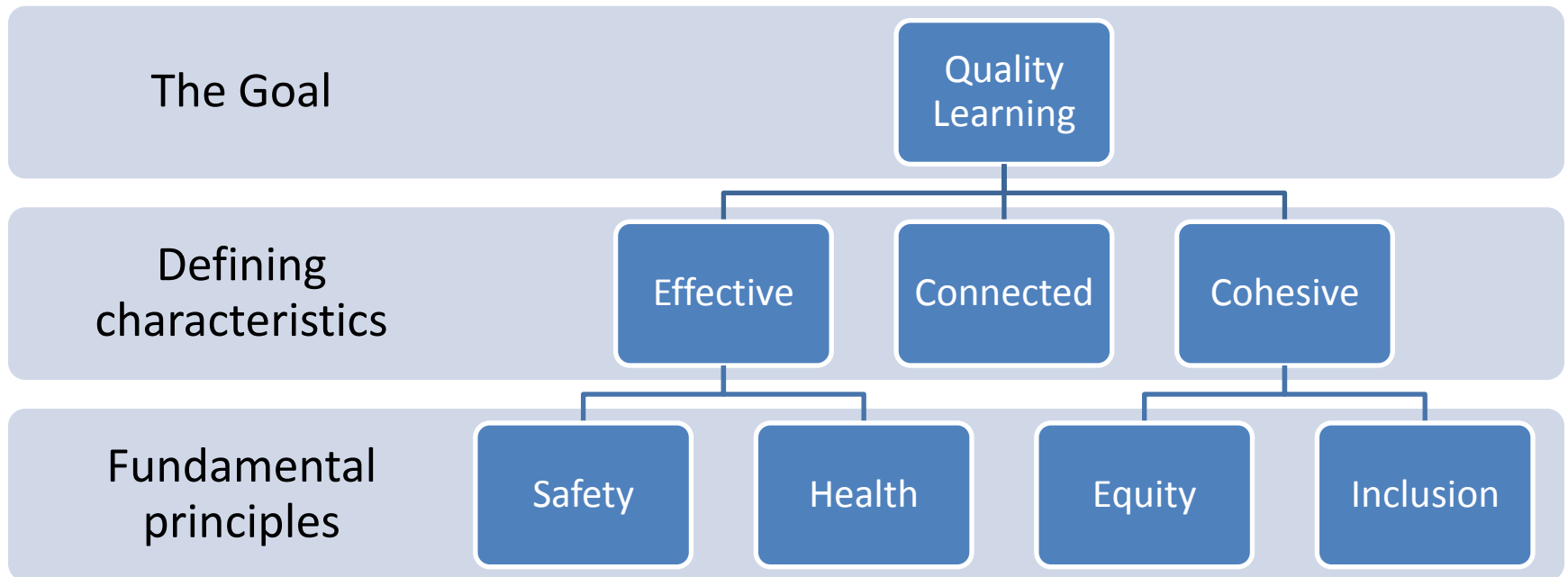
- Research has shown that school facilities (condition/design) has impact on learning and performance

However :

Research also states that the effect of school facilities on learners is difficult to measure

- There are many variables that may relate to performance, e.g. student background
- Psychosocial environment / organizational climate of classroom and other learning spaces
 - also has impact on learners

Enabling environment key Features

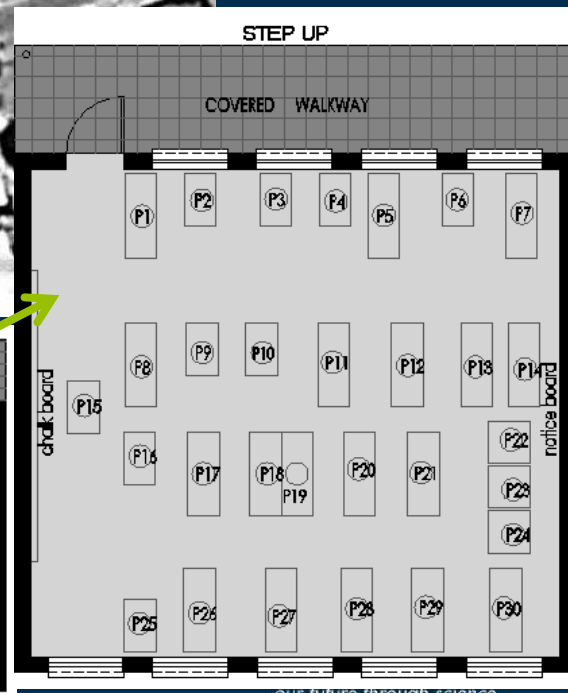


UNESCO,2011

Typical government school design



©2011 AtrGIS (Fly) Ltd.
Image ©2011 GeoEye
©2011 Europa Technology



Learning environment model: CLASSROOM – Cells and bells model

Based on Philosophy that assumes:

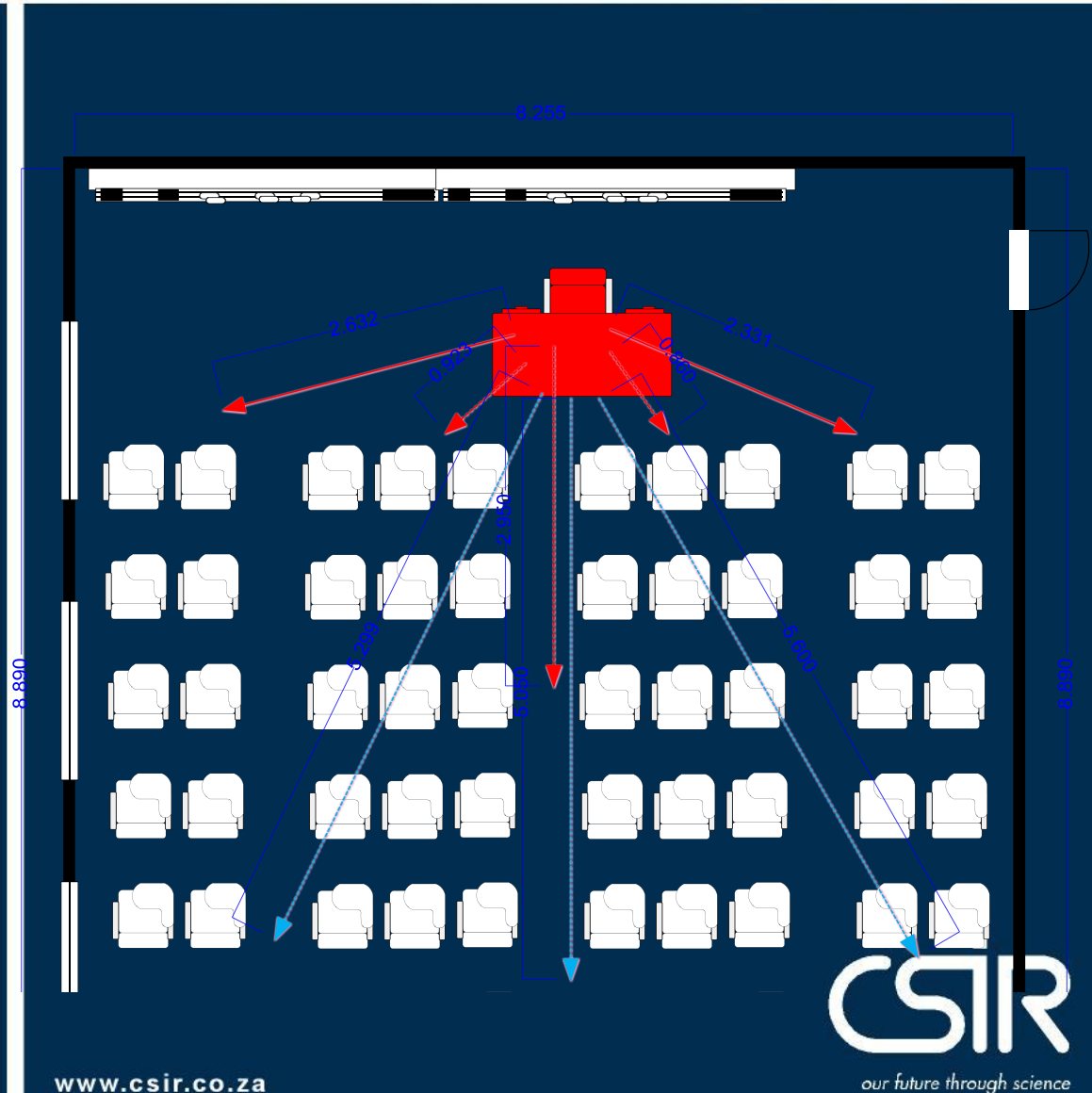
A pre- determined number of students will learn the

- same things
- at the same time
- From the same person
- The same way
- In the same place

For several hours a day

Under **CONTROL**

- Derived from Henry FORD industrial model



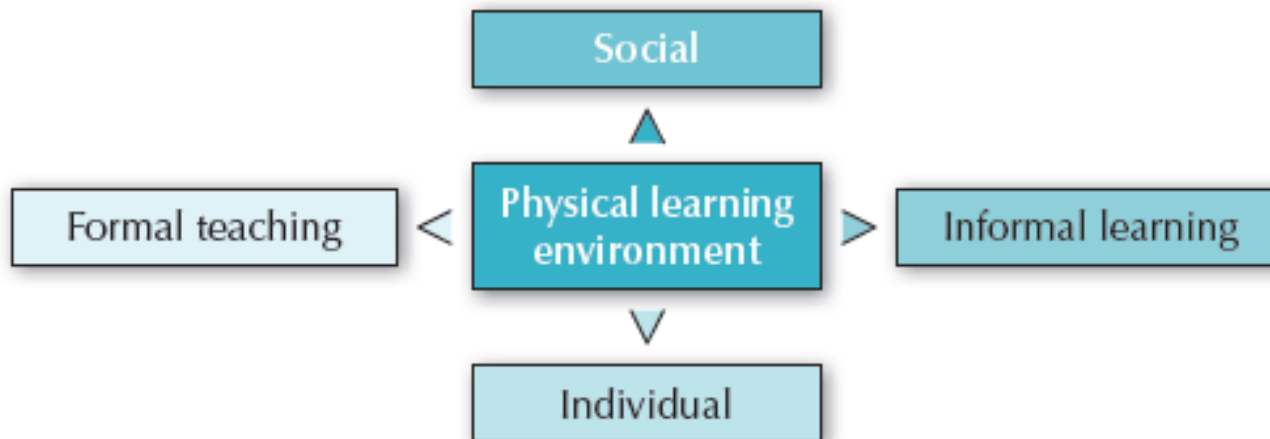
Designing the 21st Century school

- Factors to consider:
 - **teachers' roles** have changed dramatically since the last century.
 - rapid **social and cultural** changes,
 - advances in **communication and information technologies**, the introduction of the Internet within schools.
- These factors have contributed to:
 - shape of teaching
 - operating cultures of schools and
 - physical learning environment.
- These factors affected educators, researchers and communities the world over.
 - This is an International issues
- We have OLD facilities catering for the PAST
- NEED to cater for 21st century teaching and learning.

21st Century schools

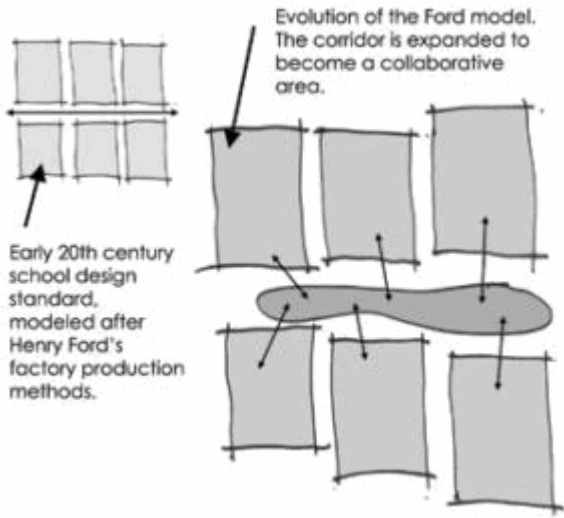
- Learner focused
 - Physical learning environments must be supportive of learning

Supportive learning contexts



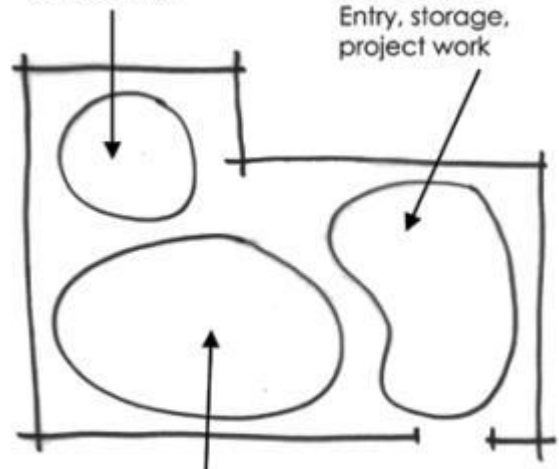
Kuuskorpi, et al.,2011.

Enabling design concept



Breakout Area
Soft Seating

Active Zone
Entry, storage, project work



Flex Space
Seminar, quiet individual work, collaborative, or presentation.

Nair & Fielding, 2005.



Kuuskorpi, et al., 2011.

www.csir.co.za

Way forward

- CSIR continuing studies on School facilities for the next 3 year.
- Aim of improving our school
- Providing a scientific base for the design and construction of schools that are enabling and suitable for change

' We shape our buildings; thereafter they shape us'

Winston Churchill



References

- Department of Education,2008. *National policy for an equitable provision of an enabling school physical teaching environment*. Government Gazzette,21 November 2008.
- Kuuskorpi, et al.,2011. *The future of the physical learning environment: school facilities that support the user* .OECD,CELE Exchange 2011/11
- Nair & Fielding,2005. *The language of school design: Design patterns for 21st century schools*. DesignShare, 2005.
- National Planning Commission,2011. *Vision 2030*. National Development Plan.
- National treasury,2011. *The estimates of National expenditure 2011*
- UNESCO,2011. *A place to learn: Lessons from research on learning environments*. Technical paper no. 9.UNESCO Institute for statistics,2011

Thank you

Lorato Motsatsi
CSIR BUILT ENVIRONMENT
Lmotsatsi@csir.co.za