

EFFICIENCY AND EFFECTIVENESS IN TEACHING AND LEARNING: NEED FOR NEW PARADIGMS

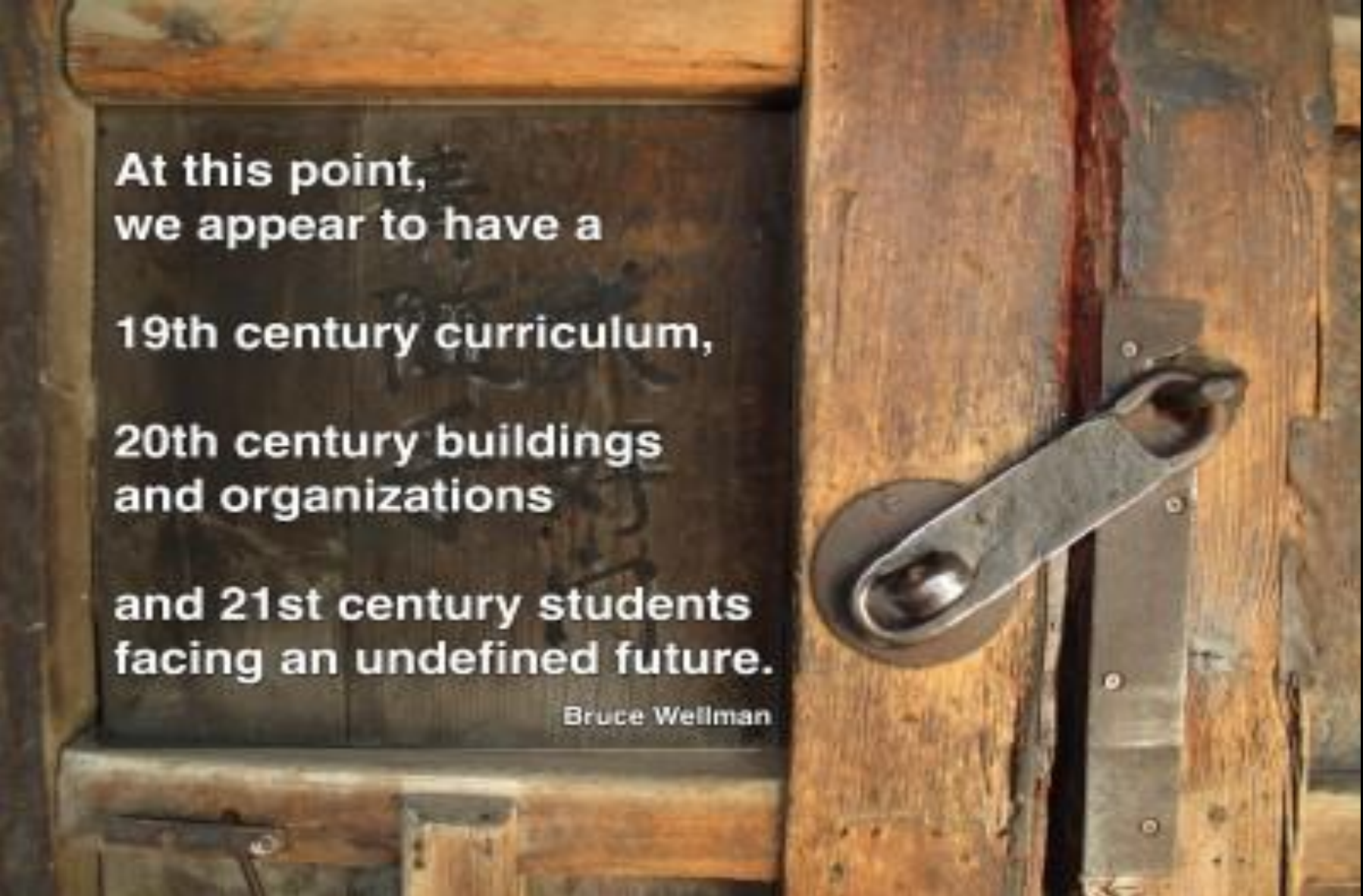
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**At this point,
we appear to have a
19th century curriculum,
20th century buildings
and organizations
and 21st century students
facing an undefined future.**

Bruce Wellman



- ❑ Understand the **issues** that underline the future of the teaching and learning system
- ❑ Understand the diverse **factors** affecting the education system
- ❑ Understand the basic issues related to their **future**



To provide the necessary educational unity
so that all schools will have equal opportunities,
recourses and possibilities



EFFICIENCY

To develop the means to move away
from homogenization and uniformity



EFFECTIVENESS



NETWORKED INFORMATION SOCIETY



Easy access to high-speed networks



Access and use of **Cloud Computing**



Education stakeholders can discover, consume and produce information resources and services



NETWORKED INFORMATION SOCIETY



Ubiquitous access to teaching techniques, learning practices and many educational related services



Access and use of **Cloud Computing**



Making it possible to create identity related programs



CLOUD COMPUTING

Recent developments suggest that cloud computing, the fundamental instrument in a cloud based methodological environment.

It can fully fulfill all the required methodological needs of education.



“WITH CLOUD COMPUTING IN EDUCATION, YOU GET POWERFUL SOFTWARE AND MASSIVE COMPUTING RESOURCES WHERE AND WHEN YOU NEED THEM (AND WE MAY ADD IN ANY WAY YOU DESIRE), IN ORDER TO APPLY NEW EDUCATIONAL APPROACHES... CLOUD SERVICES CAN BE USED TO COMBINE ON-DEMAND COMPUTING AND STORAGE, FAMILIAR EXPERIENCE WITH ON-DEMAND SCALABILITY AND ONLINE SERVICES FOR ANYWHERE, ANYTIME ACCESS TO POWERFUL WEB-BASED TOOLS”

MICROSOFT



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AS LEARNING BECOMES INCREASINGLY DIGITAL, ONLINE ACCESS BECOMES THE NECESSARY VEHICLE FOR THE EMERGING CLOUD-BASED DEVELOPMENTS



CLOUD COMPUTING



CAN CREATE A PEDAGOGICAL OR SCHOOL ENVIRONMENT, WHICH OFFERS THE OPPORTUNITY TO TRANSFORM THE SCHOOL ENVIRONMENT BY SUPPORTING:

- NEW LEARNING SETTINGS
- NEW LEARNING PROCESSES
- NEW LEARNING PRACTICES



THE FUTURE EUROPEAN EDUCATION SYSTEM

REQUIRES TO:

- ❑ Apply two **Operational Requirements** related to teaching and learning, in order to address them.
- ❑ Work within a new **Teaching Environment** which is susceptible to future educational conditions.
- ❑ Utilize a new **Methodological Approach** which can provide the instruments to be able to do so.
- ❑ Create a new **learning environment** which provides the framework to achieve the previous tasks.



THERE HAS BEEN A TRANSITION

THE **TRADITIONAL** SCHOOL ENVIRONMENT
characterized by operating in a old fashion

THE **PROGRESSIVE** SCHOOL ENVIRONMENT
based on significant progressive changes in
teaching environment

THE NEW **SCHOOL ON THE CLOUD**
where learning is associated with
Cloud Computing



	LEARNING SETTING	LEARNING PROCESS	LEARNING PRACTICES
TRADITIONAL SCHOOL	<p>School as an institution to "pay dues" to society</p> <p>A place for not having fun and enjoy learning</p> <p>Classrooms having neatly arranged rows of seats facing the chalkboard</p> <p>Students listen and answer questions from their teacher</p> <p>Teachers use periodical summative assessments (tests)</p>	<p>The learning process is based on "what to learn", based on the "transmission of knowledge"</p> <p>Teachers and children are busy covering what is set forth in the textbooks</p> <p>Students work on assignments predetermined by their teachers</p> <p>Memorization is the exclusive way towards learning</p>	<p>There is a "representational" view of learning</p> <p>Students work individually, based on a standard and common for all curriculum</p> <p>Students produced their school work for the exclusive audience of their assessing teacher</p> <p>The emotional aspects of the learning practices are completely overlooked</p>
PROGRESSIVE SCHOOL	<p>School is tailored to the needs of individuals</p> <p>Students in the classroom work in various sitting arrangements</p> <p>Students work in different functional or resource areas of the classroom, around groups of desks</p> <p>Students produce, present and decorate their classroom with their own work</p>	<p>The learning process is based on "learning how to learn"</p> <p>The syllabus is less rigid about the content of the subjects</p> <p>The textbooks are not centrally chosen</p> <p>Learning is considered as a process to face the changing society</p>	<p>Learning is based on group based approaches (e.g. project/problem/game-based)</p> <p>The rewards practices and tests are more sophisticated less evaluative</p> <p>Learning is accomplished by inquiring, solving problems, thinking critically</p>
SCHOOL ON THE CLOUD	<p>School as building with open teaching areas, inside or outside spaces more adaptable</p> <p>Private workstations available for individual tasks</p> <p>Standing desks for students who have difficulty maintaining focus</p> <p>Collaborative work places for group projects, technology equipped</p> <p>Students are given more autonomy on how and where to sit</p>	<p>Group projects completed through collaborative environments</p> <p>Online based assignments, assessments, posting of grades, through portals</p> <p>Students use cloud computing tools and practices</p> <p>Education stakeholders communicating using social media platforms</p>	<p>Accommodation of various learning styles</p> <p>Teachers give students access to materials outside the school building</p> <p>Students create artifacts based on virtual-augmented reality environments</p> <p>A multidimensional educational environment by adding sound, video, images and interaction</p>



LEARNING SETTING

- ❑ SCHOOL AS A INSTITUTION TO "PAY THEIR DUES" TO SOCIETY.
- ❑ SCHOOL IS A PLACE OF PASSIVITY, BOREDOM AND FAILURE, NOT HAVING FUN AND ENJOY LEARNING.
- ❑ STUDENTS CONFINED IN CLASSROOMS HAVING NEATLY ARRANGED ROWS OF SEATS FACING THE CHALKBOARD.
- ❑ STUDENTS LISTEN AND ANSWER QUESTIONS FROM THEIR TEACHER.
- ❑ TEACHERS USE PERIODICAL SUMMATIVE ASSESSMENTS.



LEARNING PROCESS

- ❑ THE LEARNING PROCESS IS DESCRIBED BY "WHAT TO LEARN" AND BASED ON THE "TRANSMISSION OF KNOWLEDGE.
- ❑ THE LEARNING STRATEGY HAS NO CONCERN FOR ENCOURAGING STUDENTS ON LEARNING THE THINGS THEY ARE GOOD AT.
- ❑ TEACHERS AND CHILDREN ARE USING PRACTICALLY ONLY THE TEXTBOOKS AND WORKBOOKS.
- ❑ MEMORIZATION IS THE MAJOR WAY TOWARDS LEARNING.



LEARNING PRACTICES

- ❑ THE LEARNING PRACTICE IS CHARACTERIZED BY A "REPRESENTATIONAL" VIEW OF LEARNING.
- ❑ THE "TRANSMISSION OF KNOWLEDGE" IS ACHIEVED EXCLUSIVELY BY INSTRUCTION THAT IN TURN DETERMINES THE DESIGN AND OPERATION OF LEARNING PRACTICES.
- ❑ STUDENTS WORK ON ASSIGNMENTS PREDETERMINED BY THEIR TEACHERS AND ADDRESSED EXCLUSIVELY TO THEM.
- ❑ MEMORIZATION IS THE MAJOR WAY TOWARDS LEARNING.
- ❑ THE EMOTIONAL ASPECTS OF THE LEARNING PRACTICES ARE COMPLETELY OVERLOOKED



LEARNING SETTING

- ❑ Schools is tailored to the needs of Individuals.
- ❑ Students in the classroom work in various sitting arrangements.
- ❑ They work in different functional or resource areas of the classroom, around groups of desks.
- ❑ Students decorate the walls with their own work.
- ❑ Students produce and decorate their classrooms with their own work.



LEARNING PROCESS

- ❑ The Learning process is based on “learning how to learn”.
- ❑ Learning is considered as a process to face the changing society.
- ❑ The emphasis is on training pupils to solve problems, share ideas and think critically.
- ❑ Learning is beyond the mechanical use of the contents of the curriculum.
- ❑ Knowledge is free of the rigidity of a single person's authority (teacher).



LEARNING PRACTICE

- ❑ Learning practice is directed towards group based approaches (projects, problem solving, game based).
- ❑ The syllabus is less rigid about the content of the subjects and towards the underlined knowledge.
- ❑ The textbooks are not centrally chosen.
- ❑ A few traditional practices are retained (rewards) and most are abandoned (punishments).
- ❑ The reward practices and tests are more sophisticated and less evaluative.



LEARNING SETTING

- ❑ The school is a building with open teaching areas and adaptable spaces to meet the needs and desires of students.
- ❑ Absence of neat rows of chairs and desks.
- ❑ The sitting arrangements are flexible so that students can accomplish their tasks in the most comfortable and efficient way for them.
- ❑ Collaborative work places for group project, technology equipped.
- ❑ Students are given more autonomy on how and where to sit.



LEARNING PROCESS

- ❑ Students utilize Cloud based processes.
- ❑ Group projects are completed within a collaborative environment.
- ❑ On line assignments, assessments and posting of grades.
- ❑ Incorporate into the learning process the utilization of virtual and augmented reality.
- ❑ The learning process is accommodated by adding sound, video, images, and various interactions.



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LEARNING PRACTICES

- ❑ Multiple learning practices are involved using flexible assignments.
- ❑ The learning practices are based on innovative teachers which receive tangible recognition rewards and incentives for their work.
- ❑ The teacher is more interested in the proof of his students' competency in the use of technological tools, than in evaluating a set of predetermined assignments.
- ❑ The role of teachers has changed: from subjects of change to agents of change.
- ❑ Students enjoy the freedom to autonomously decide how they will achieve their task.





Today's education and its projections do not correspond to future needs and the very nature of the future education stakeholders.



Education should move towards future teaching and learning environments, and methodological approaches, whose common thread and their future determining factor is **CLOUD COMPUTING.**

CONCLUSIONS

