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Scientific Days

1st edition

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17-18 October 2022

Marrakech - Morocco  
Cadi Ayyad university - Conference center

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# Issues of a Quality Approach in Educational Evaluation Engineering Facing the Massification of Higher Education

Prof. Dr Jean-Luc Gilles

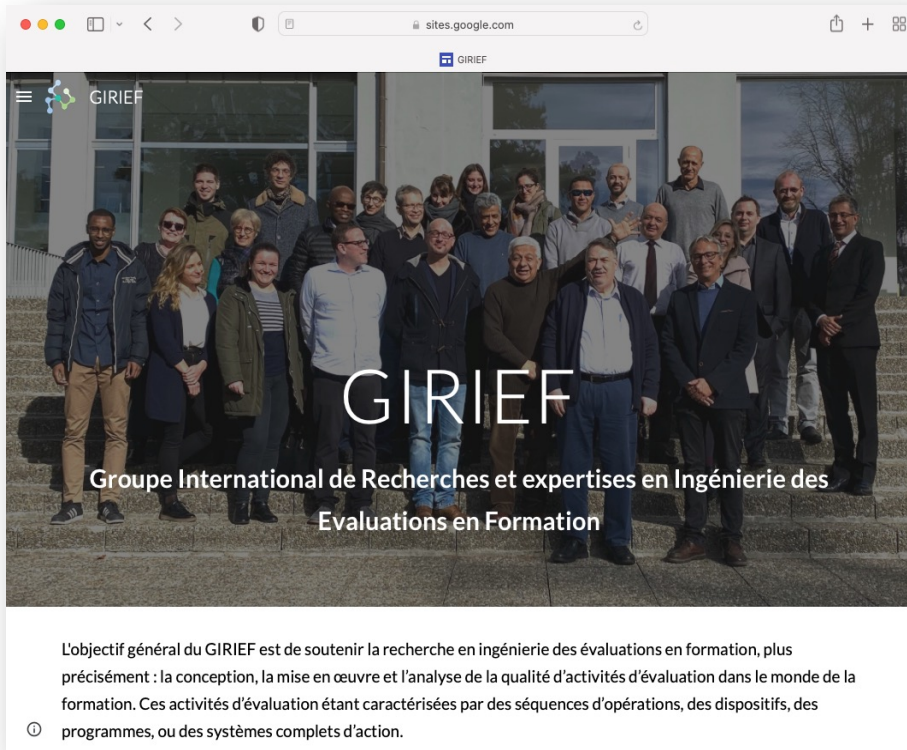


1. Introduction
2. Massification in Higher Education (HE)
3. Evaluation Methods in HE: Impact of Massification
4. Toward a Culture of Regulation and Accountability in HE
5. Evaluation Engineering in a Digital Civilization
6. Conclusions

# 1. Introduction

- **International Group on Educational Evaluation Engineering (IGE<sup>3</sup>)**

→ [www.girief.net](http://www.girief.net)



The screenshot shows a web browser window displaying the GIRIEF website. At the top, there is a navigation bar with the GIRIEF logo and a hamburger menu icon. Below the navigation bar is a large group photo of approximately 25 people standing on a set of stone steps in front of a modern building with large windows. The photo is overlaid with the text "GIRIEF" in large white letters, and below it, "Groupe International de Recherches et expertises en Ingénierie des Evaluations en Formation" in smaller white text. Below the photo, there is a paragraph of text in French: "L'objectif général du GIRIEF est de soutenir la recherche en ingénierie des évaluations en formation, plus précisément : la conception, la mise en œuvre et l'analyse de la qualité d'activités d'évaluation dans le monde de la formation. Ces activités d'évaluation étant caractérisées par des séquences d'opérations, des dispositifs, des programmes, ou des systèmes complets d'action." At the bottom left of the text area, there is a small circular icon with a question mark.

One of our goals:

*To highlight the challenges of a quality approach in educational evaluation engineering in the context of the student boom in higher education, particularly in the first levels of university education.*

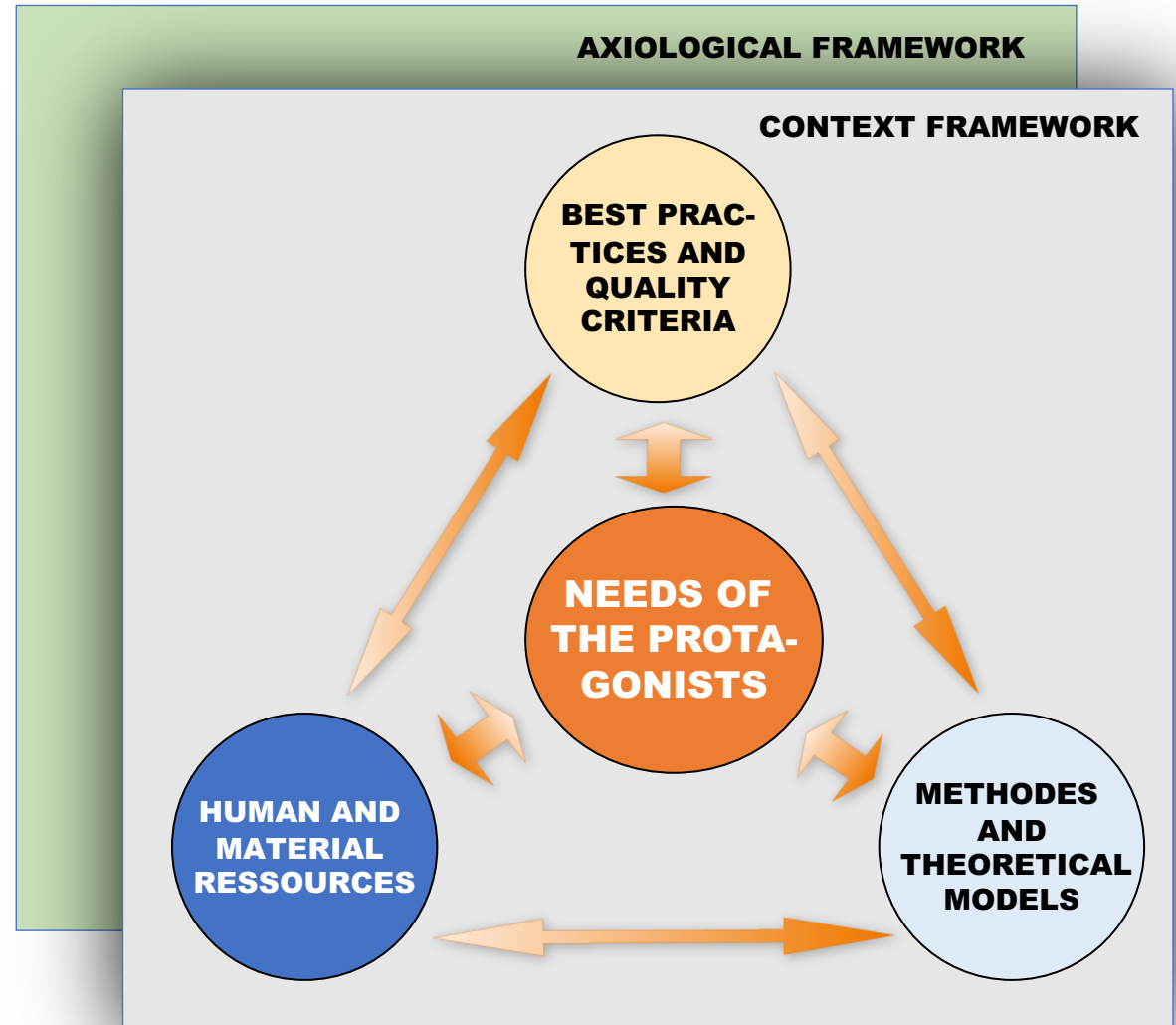
- What is meant by  
“Educational Evaluation Engineering (E<sup>3</sup>)”?

... concerns the design, implementation and quality analysis of evaluation activities in education.

These activities are characterized by sequences of operations, devices, programs, or even complete systems of action.

# 1. Introduction

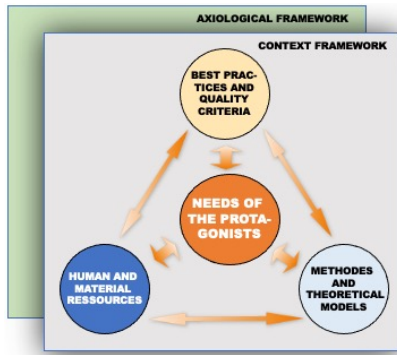
- Quality Approach paradigm (QAP) in Educational Evaluation Engineering (E<sup>3</sup>)



(Gilles, 2002)

# 1. Introduction

- Quality Approach Paradigm (QAP) in educational evaluation engineering (E<sup>3</sup>)



(Gilles, 2002)

A “paradigm” in the sense of Kuhn (1983), i.e., a set of beliefs, recognized values, and techniques that are common to members of a scientific community, and that *serves as a rallying point for them*.

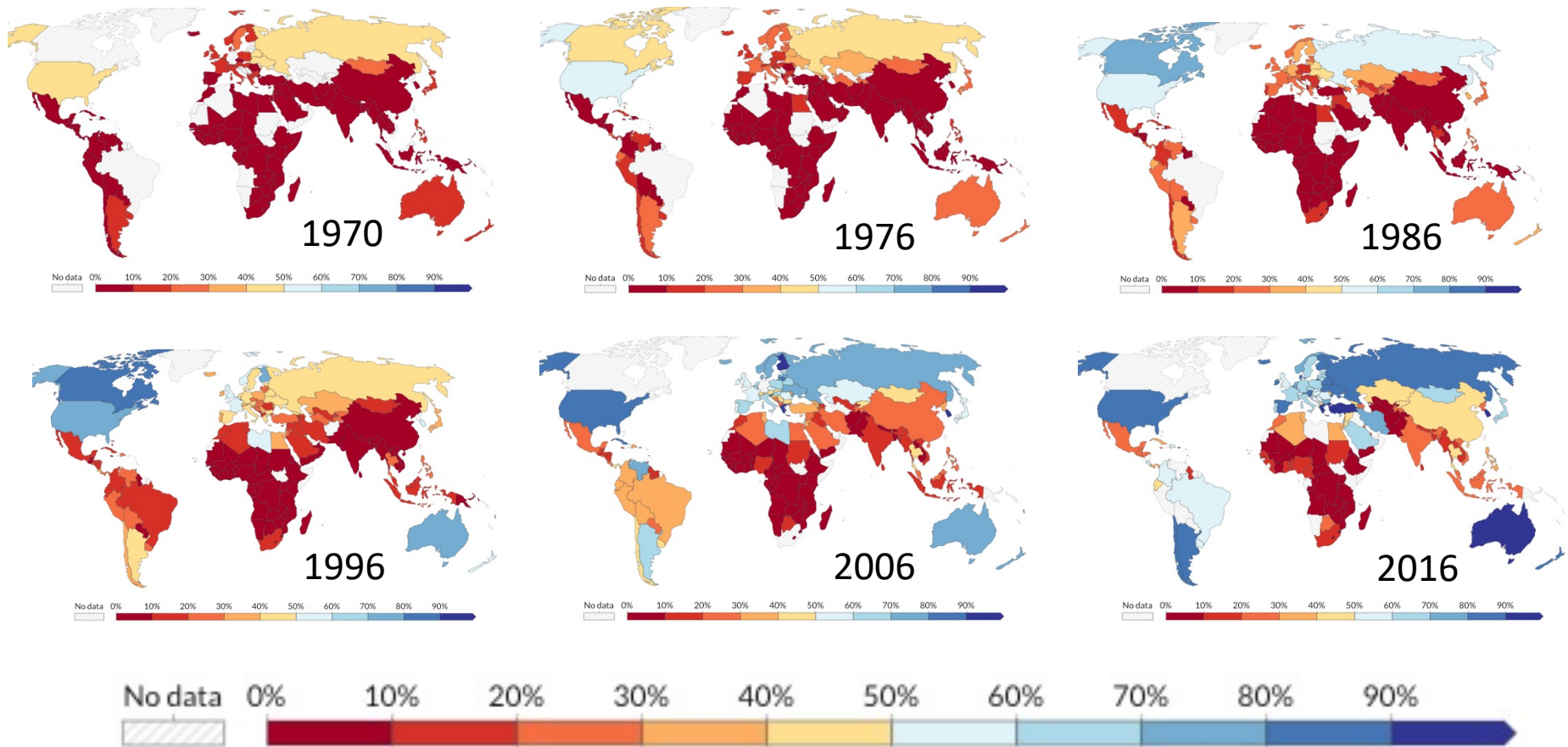
... we propose to use this paradigm to guide our analysis of the issues of a quality approach in evaluation engineering facing the massification of higher education.

# 2. Massification context in Higher Education (HE)

- Gross enrollment ratio in tertiary education

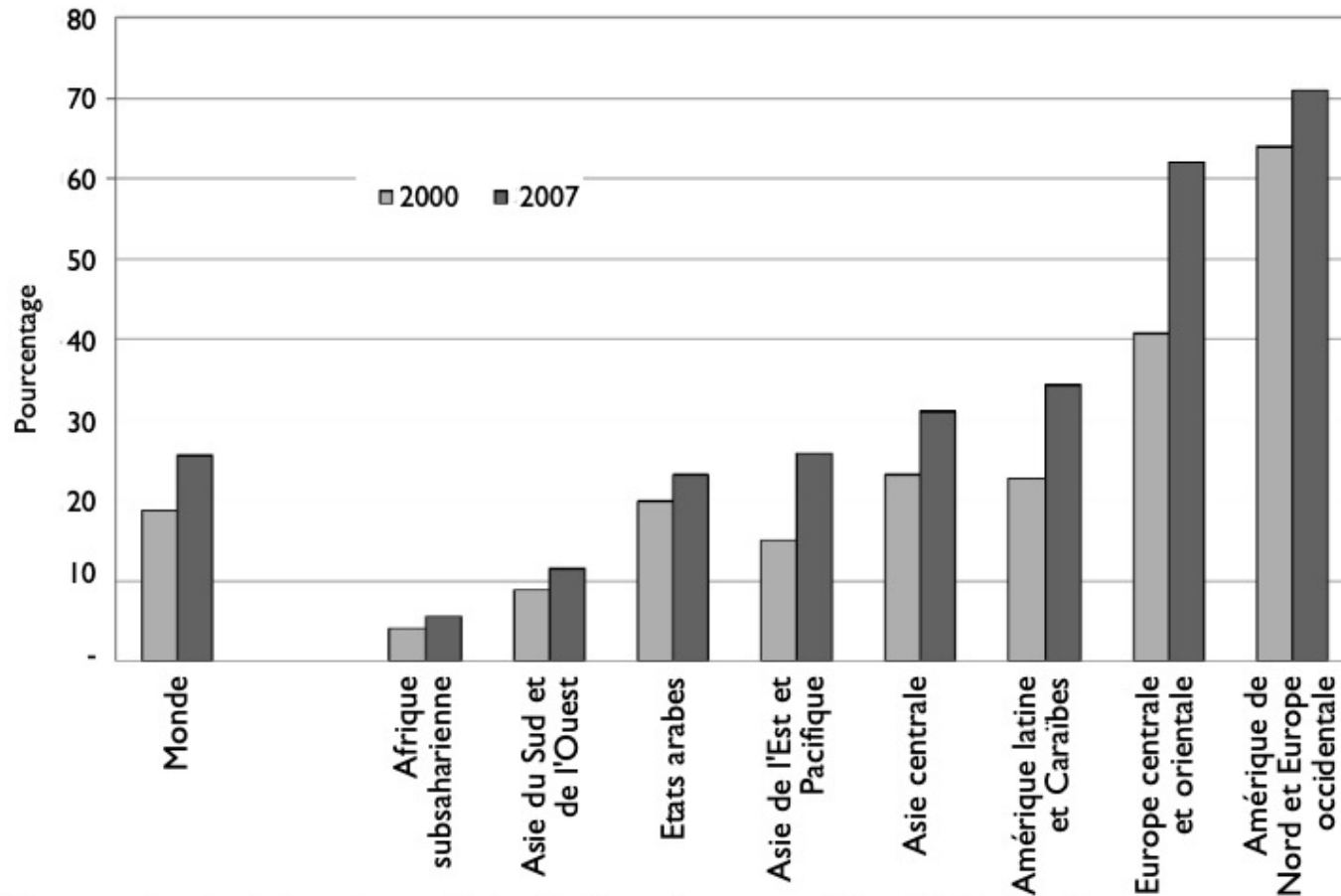
Source: [UNESCO Institute for Statistics](#)

Total enrollment in tertiary education, regardless of age, expressed as a percentage of the total population of the five-year age group following on from secondary school leaving



## 2. Massification context in Higher Education (HE)

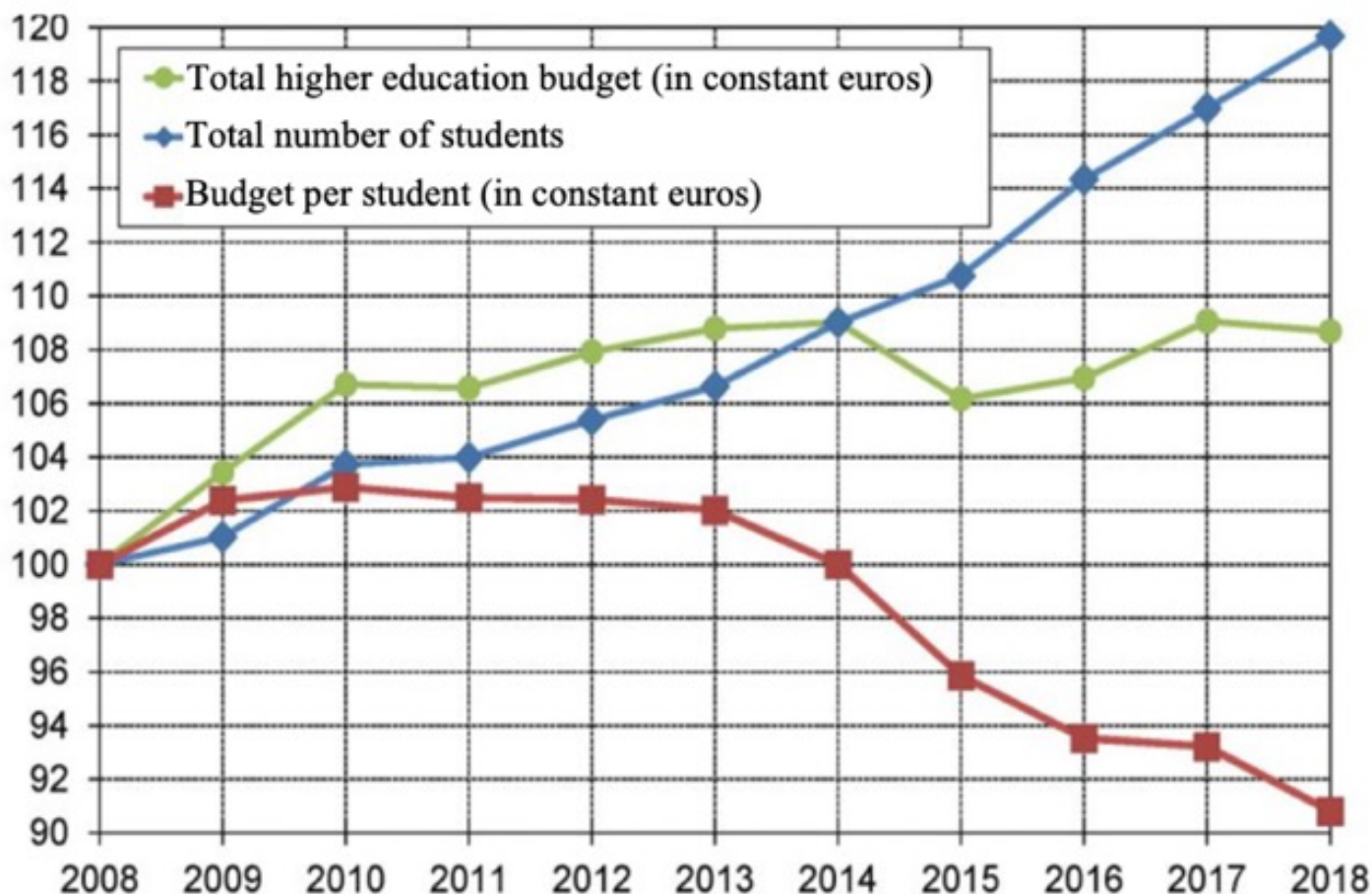
- Gross enrolment ratio in higher education by geographical region, 2000 and 2007



Source: Policy Report for the 2009 UNESCO World Conference on Higher Education (Altbach, Reisberg et Rumbley, 2009, p. V)

## 2. Massification context in Higher Education (HE)

- The number of students in France increased by 20% between 2008 and 2018, while the budget for higher education increased by less than 10% (in constant euros), resulting in a 10% decrease in spending per student



Source: lemonde.fr; Le blog de Thomas Piketty, 12 October 2017

### 3. Evaluation Methods in HE: Impact of Massification

- Massification in HE and budgetary limitations...

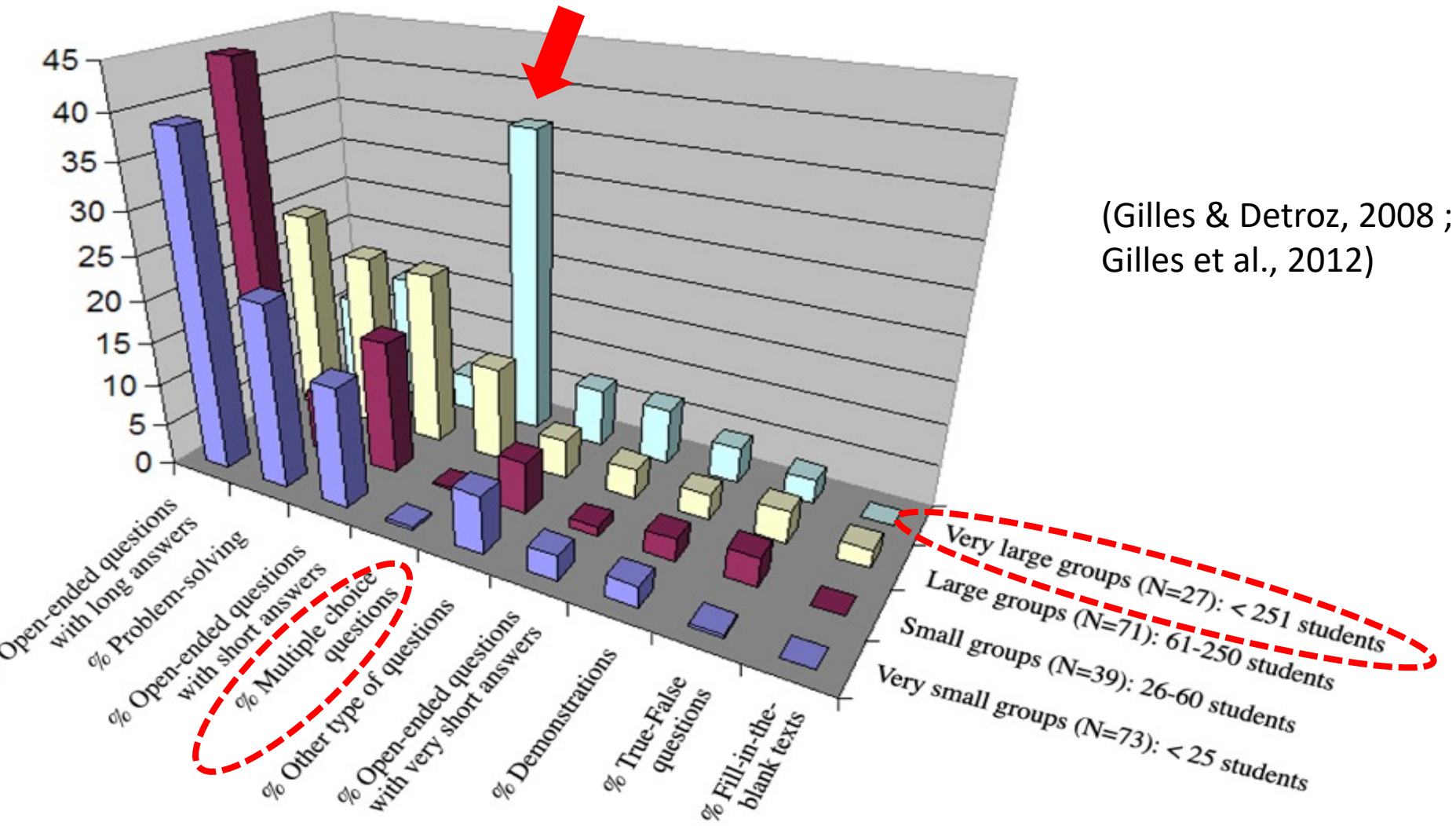
The teaching staff does not increase in proportion to the increase in student numbers.

Many faculty are therefore obliged to give classes in increasingly crowded lecture halls and to adapt their teaching and their assessments.



# 3. Evaluation Methods in HE: Impact of Massification

- An example of impact on assessment practices in HE

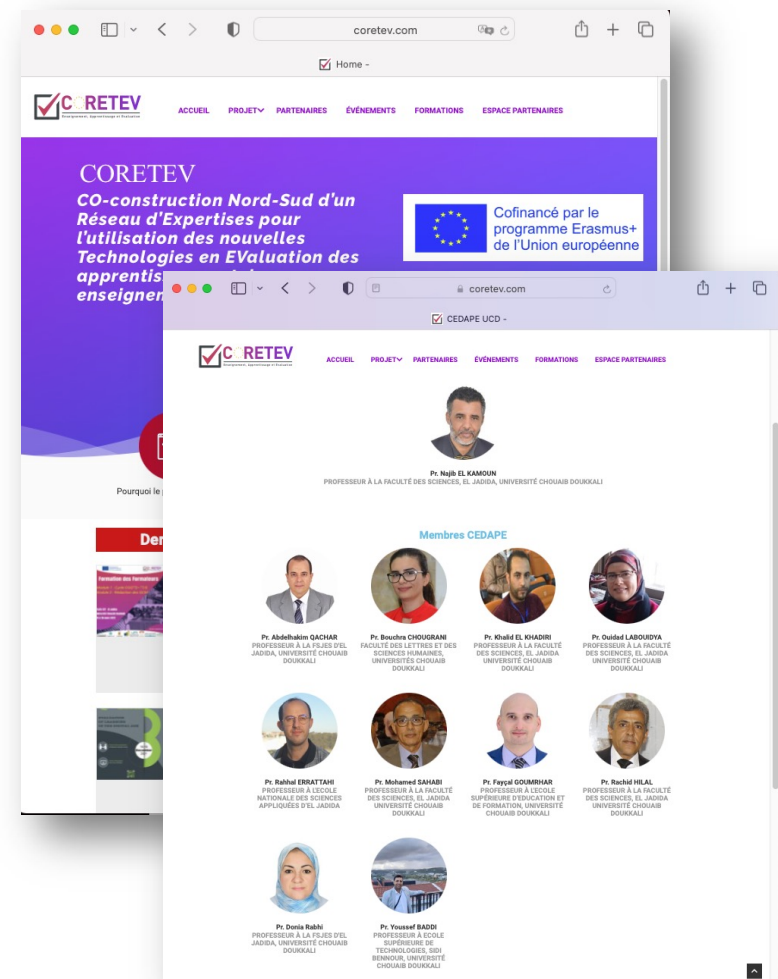


(Gilles & Detroz, 2008 ;  
Gilles et al., 2012)

# 3. Evaluation Methods in HE: Impact of Massification

- How can we help faculty who have to assess very large groups of students?

Ideally, they should be able to call on the technical and evaluation expertise of specialized teams trained in standardized assessment methods and equipped with assessment management systems and automatic data acquisition systems like optical mark reading for multiple choice questionnaires.



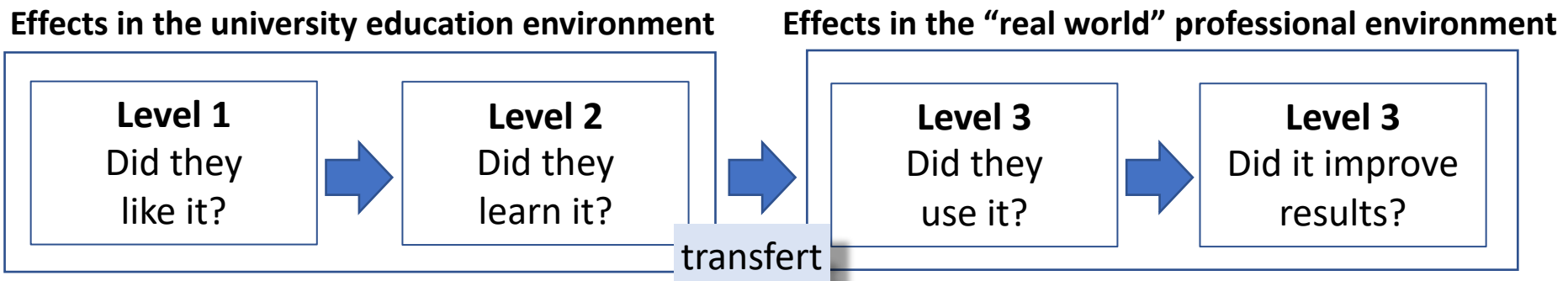
**CORETEV** → Example of the Evaluation Support Center (CEDAPE) of the University Chouaib Doukkali in El Jadida, Morocco.

# 4. Towards a Culture of Regulation and Accountability in HE

- Moving from beyond a culture of evaluation to a culture of regulation and accountability

All over the world, there is an increased focus on quality in HE, with the realization that the growth in number of students and the diversification of the university offer weighs on this quality.

There is a need to improve HE training systems and Quality evaluation instruments implemented to collect reliable data at all four Kirkpatrick levels :

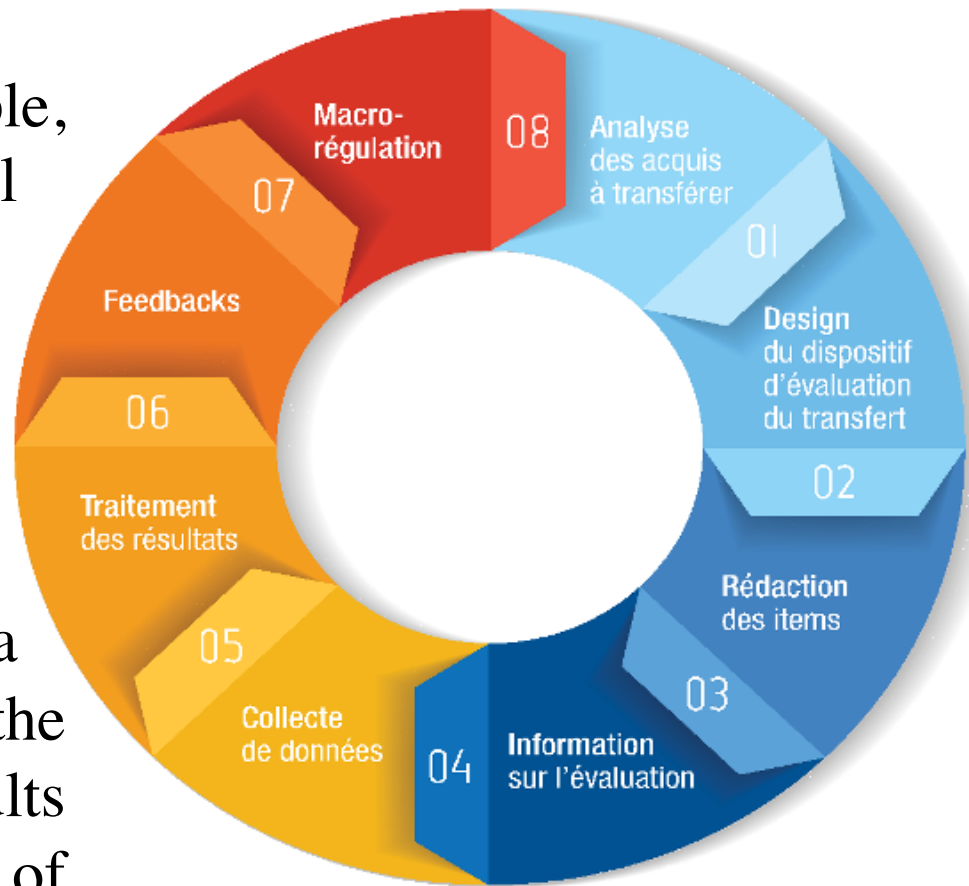


# 4. Towards a Culture of Regulation and Accountability in HE

- Development of construction cycles for quality management of evaluations at the 4 Kirkpatrick levels

For example,  
this construction cycle model  
concerns evaluations of the  
transfer of learning into the  
professional environment.

It is designed to allow  
mastery of quality criteria  
guaranteeing the reliability of the  
evaluations and their results  
in a perspective of  
continuous improvement.



(Gilles, Chochard et al., 2017)

# 5. Evaluation Engineering in a Digital Civilization

- Impact of ICT revolution

ICT revolution has led to the arrival of social media and the development of technologies that promote new forms of collaborative learning as well as a wide dissemination of knowledge within communities of learners freed from the problems of distance, synchronicity and unity of place.



# 5. Evaluation Engineering in a Digital Civilization

- Impact of ICT revolution : Assessment Management Systems



Docimo

[49] CT schedel - horizontaal (medium)

De structuur aangeduid op dit beeld

Ontstaat ter hoogte van de bovenrand van het schildkraakbeen

Loopt doorheen het kraakbeen van het foramen jugulare

Geeft in de hals takjes af voor het ruggenmerg

Ontvangt al het veneuze bloed uit de schedelholte

Geen enkel

Alle

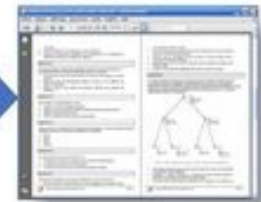
Commentaren voor cursisten :

Canalis caroticus in rotsbeen



# 5. Evaluation Engineering in a Digital Civilization

- Impact of ICT revolution : Assessment Management Systems



1. The evaluator generates a paper questionnaire from the question bank.

2. Students use special sheets to record their answers.

3. Special sheets are read by an Optical Mark Reader (OMR) and OMR generates a data file.



6. Students log in to the DOCIMO platform to receive their diagnostic and personalized feedbacks.

5. After processing and quality controls, DOCIMO generates online feedbacks.

4. Data file is imported and processed with the DOCIMO AMS.

## 5. Evaluation Engineering in a Digital Civilization

- Impact of ICT revolution in Southern countries

**In the digital age, many Southern countries are facing a lot of problems ...**

- *Small existing number of potential users possessing both the capability and equipment to benefit from access to electronic information networks;*
- *Scarcity and expensiveness of equipment, software and information in comparison with the North;*
- *Lack of accessible telecommunications infrastructure;*
- *Telecommunications monopolies together with over-regulation and high cost;*
- *Uncertainty of electricity supply in many countries;*
- *Lack of inter-regional networks and co-operation.*

*(UNESCO, 1998, p.18)*

# 5. Evaluation Engineering in a Digital Civilization

- Impact of ICT revolution in Southern countries

**How can we help in the field of Educational Evaluation Engineering (E<sup>3</sup>)?**

The screenshot shows the CORETEV website with the following content:

- Navigation menu: ACCUEIL, PROJET, PARTENAIRES, ÉVÈNEMENTS, FORMATIONS, ESPACE PARTENAIRES
- Header: **Opérationnalisation des CEDAPES**
- Sub-headers: *Formation des formateurs*, *Formation technique*, *Etat d'avancement*
- Event dates:
  - UCD El Jadida 22-24 Nov 2021
  - UCA Marrakech 25-27 Nov 2021
  - UMI Meknès 28-30 Nov 2021
- Buttons: [plus d'information](#)
- Footer: [www.coretev.com](http://www.coretev.com)
- Sections: Principaux objectifs, Résultats, impact et bénéficiaires directs, Agenda
- Agenda item: 06-09 Jun 2022, CEDAPE-UMI organise un séminaire sous le thème: Projet CORETEV Evolution et Perspectives
- Logo: Cofinancé par le programme Erasmus+ de l'Union européenne

CORETEV

*"North-South Co-construction of a Network of Expertise for the use of new Technologies in the Evaluation of Learning and Teaching"*

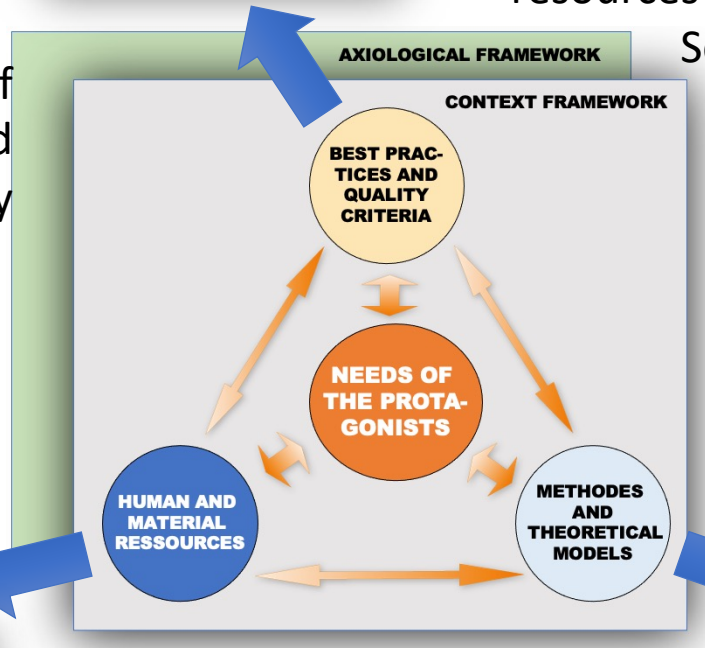
# 6. Conclusions

## Quality Criteria in EEE

Critères	Explications	Références
Validité	Les informations résultant des évaluations doivent représenter ce que l'enseignant veut mesurer, permettre des inférences solides, couvrir les aspects importants qui doivent être évalués, et ce, en lien avec les objectifs et le contenu enseigné.	p. ex. Cronbach et Muhl (1955) ; Linn, Baker et Dunbar (1995) ; Anderson (2002)
Fidélité	Les traitements des résultats doivent fournir des garanties d'objectivité. La subjectivité de l'enseignant doit être contrôlée lors des corrections des évaluations (concordance intra-évaluateur, mais aussi inter-évaluateurs si plusieurs enseignants interviennent). Ceci peut être fait au moyen de grilles d'évaluation ciblées.	p. ex. Cronbach (1951) ; Patton (1963) ; Elad (2009) ; Brown (2019)
Sensibilité	Les mesures des apprentissages réalisés doivent être précises, refléter des phénomènes subtils.	p. ex. Abemot (1996) ; Leclercq (2003)
Diagnosticité	Les feedbacks retournés aux apprenants après correction doivent permettre le diagnostic précis des points forts et des points à améliorer et faciliter la régulation des apprentissages et des enseignements. Le feedback est d'autant plus bénéfique qu'il aide les apprenants à corriger leurs erreurs et fournit des indications sur la marche à suivre pour améliorer les apprentissages.	p. ex. Alderson (2005) ; Hattie et Timperley (2007) ; Jung (2006) ; Jung et Wagner (2013)

Solidarity, sharing resources and South-South-North expertise

Massification, culture of evaluation, regulation and accountability



Human and material resources

Quality Cycles for Assessment Construction



# Thank you for your attention!

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