1st European Conference on the Future of Business Education in Packaging
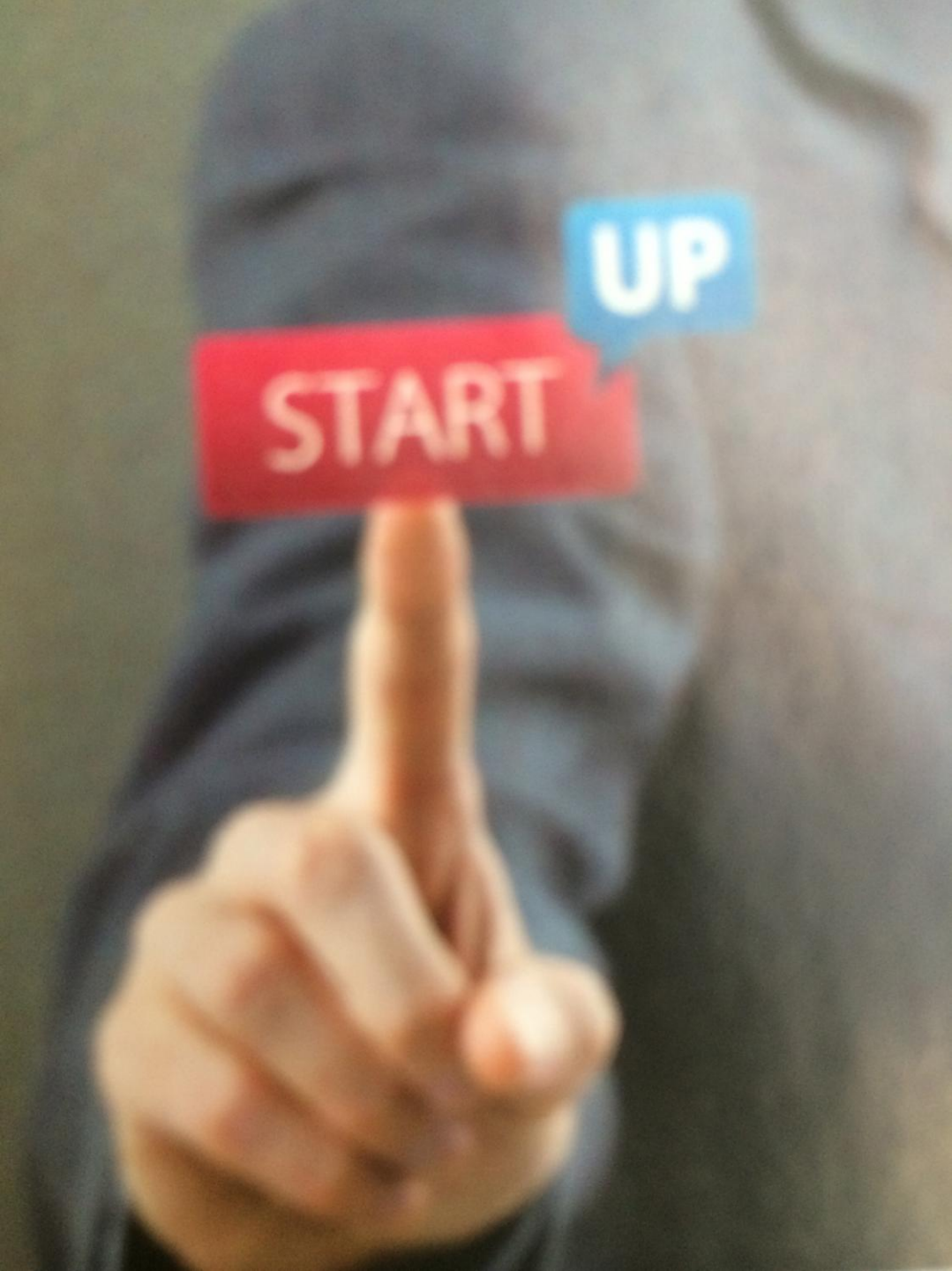
"Maintaining competitiveness in business:

how to keep the workforce well-trained and well-educated"

Prof. Dr. F. Dochy, KUL/UM

The end of the learning process (assessment) usually steers what goes upfront.
(For products: Wishes of clients steer business Processes.)
(For learning: Usibility, appropriateness, assessment, steer the learning process (interest, motivation, use)

The tail wags the dog

*"how to keep the workforce well-trained and well-educated"*

Content

1. Facts &Figures
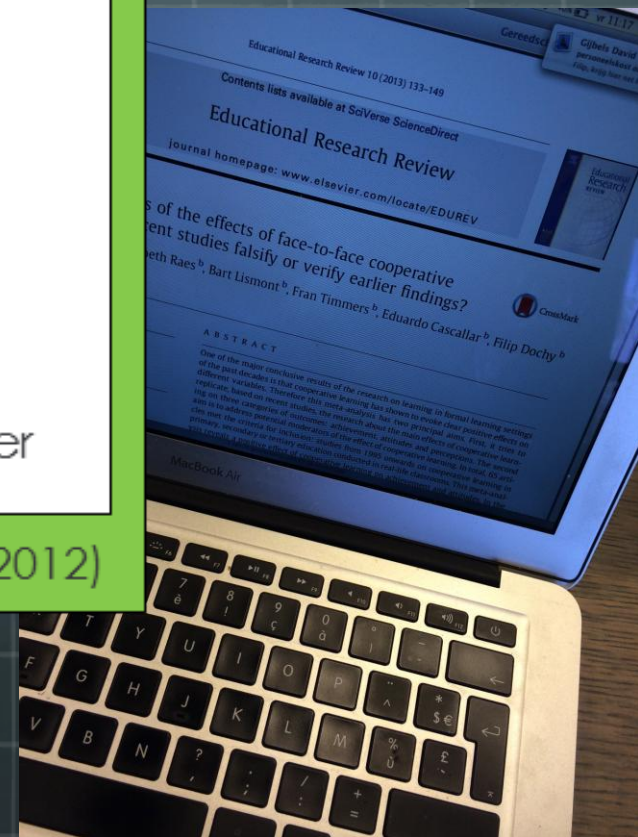
2. Problems

3. Solutions

Facts & figures

- Training does not have a ream impact in the workplace

- Costs are too high when taking employees out of the production process for separate trainings.

- US companies invest on a yearly basis much more in L&D than European companies

- HR & managers about the importance of :
    - Classroom training 82% ↓
    - E-learning & webinars 40% ↑
    - Coaching 40% ↑
    - Gaming 5% ↑
    - Learning via social media 8% ↑
    - Mix of modes of learning 25% ↑

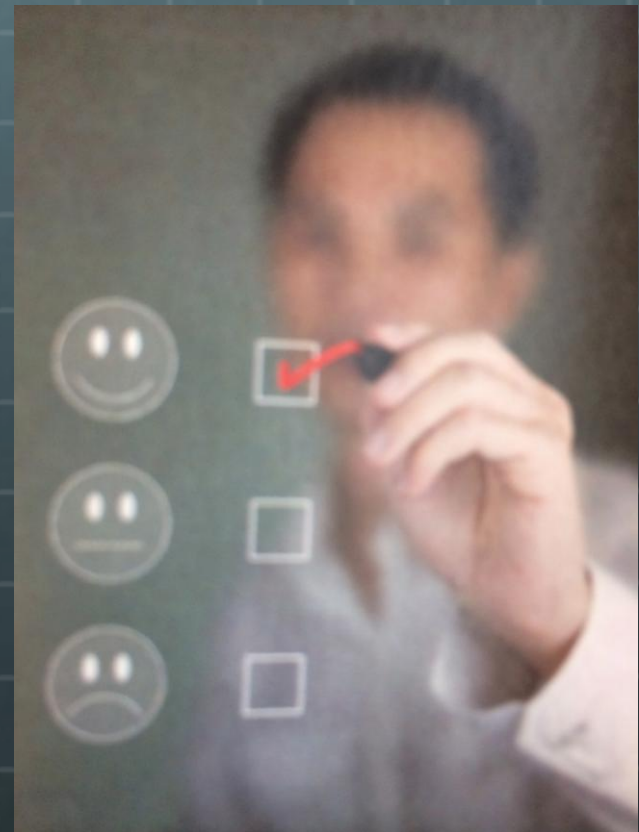L&D Expenditure
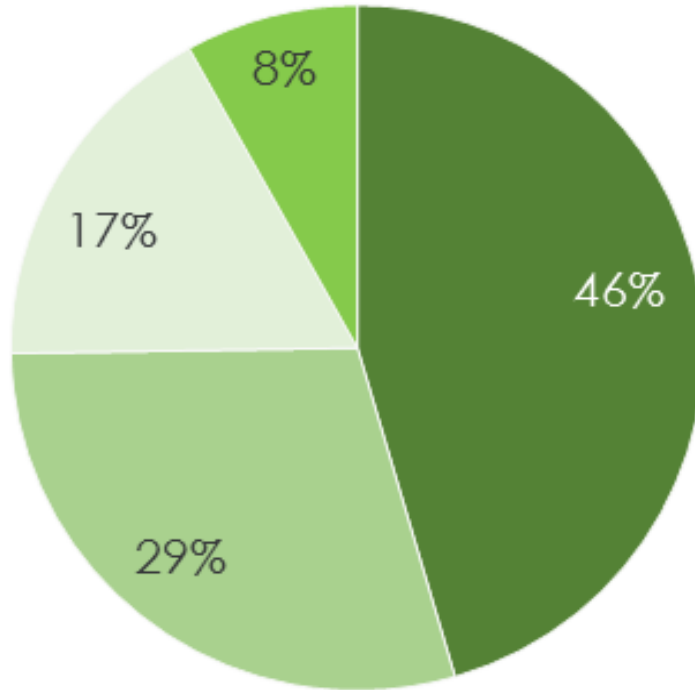
46% North America
29% Europe
17% Asia
8% Other

(Source: Training Industry, 2012)

Problems to tackle

- **Efficiency in teams**

- **Informal Learning**

- **Learning analytics**

- **E-learning**

- **Employability for the future**

# Problems- 1 Efficiency in teams

Efficiency in teams is strongly related
to the amount of learning in teams!!

(our research in student teams, policeteams, firefighterteams, command
& control teams, basketballteams, volleyballteams, cockpit crews, surgery teams,
nursery teamss, designteams, projectteams, …

Strong role of Shared Mental Models & TMS
Strongerst determinant: Psychological safety
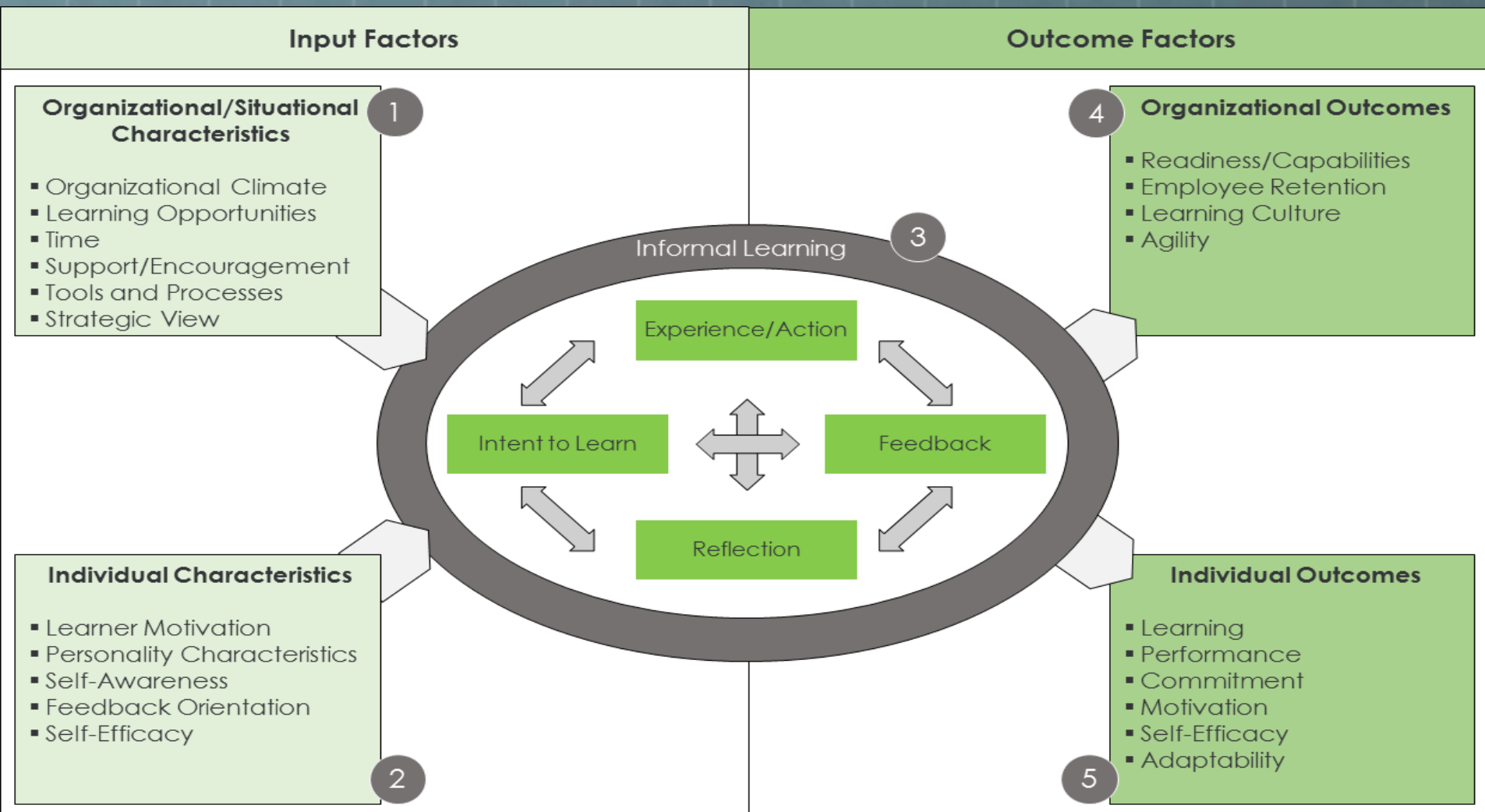(human factor)
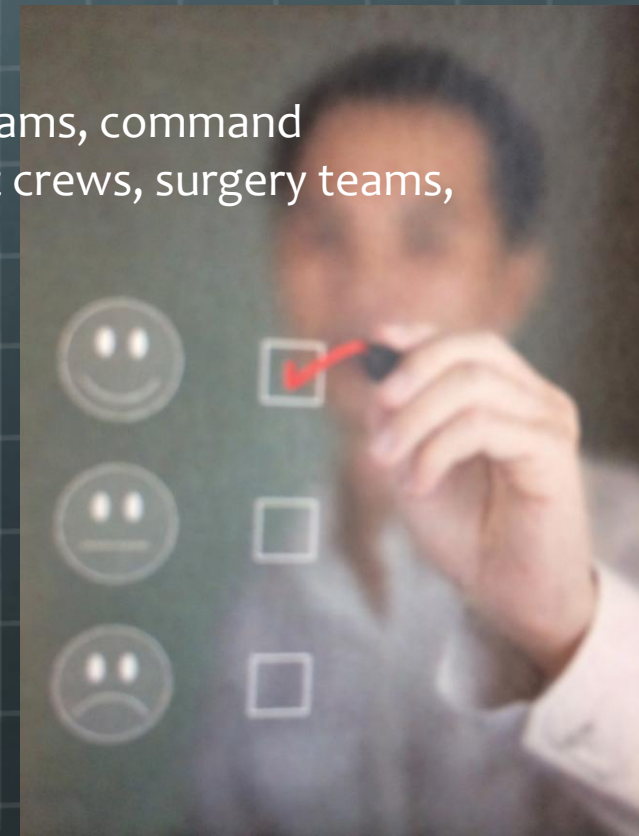
Problems- 2 Informal leren

Learning during work, during meetings, from colleagues and co-workers, via apps, via social media, without any prior planning..

90% of what we learn?

10% formal training

20% feedback & coaching

70% experience

Model informal leren (Tannenbaum, 2010)

Input Factors	Outcome Factors

Organizational/Situational Characteristics ①

- Organizational Climate
- Learning Opportunities
- Time
- Support/Encouragement
- Tools and Processes
- Strategic View

Organizational Outcomes ④

- Readiness/Capabilities
- Employee Retention
- Learning Culture
- Agility

Informal Learning ③

- Experience/Action
- Intent to Learn
- Feedback
- Reflection

Individual Characteristics ②

- Learner Motivation
- Personality Characteristics
- Self-Awareness
- Feedback Orientation
- Self-Efficacy

Individual Outcomes ⑤

- Learning
- Performance
- Commitment
- Motivation
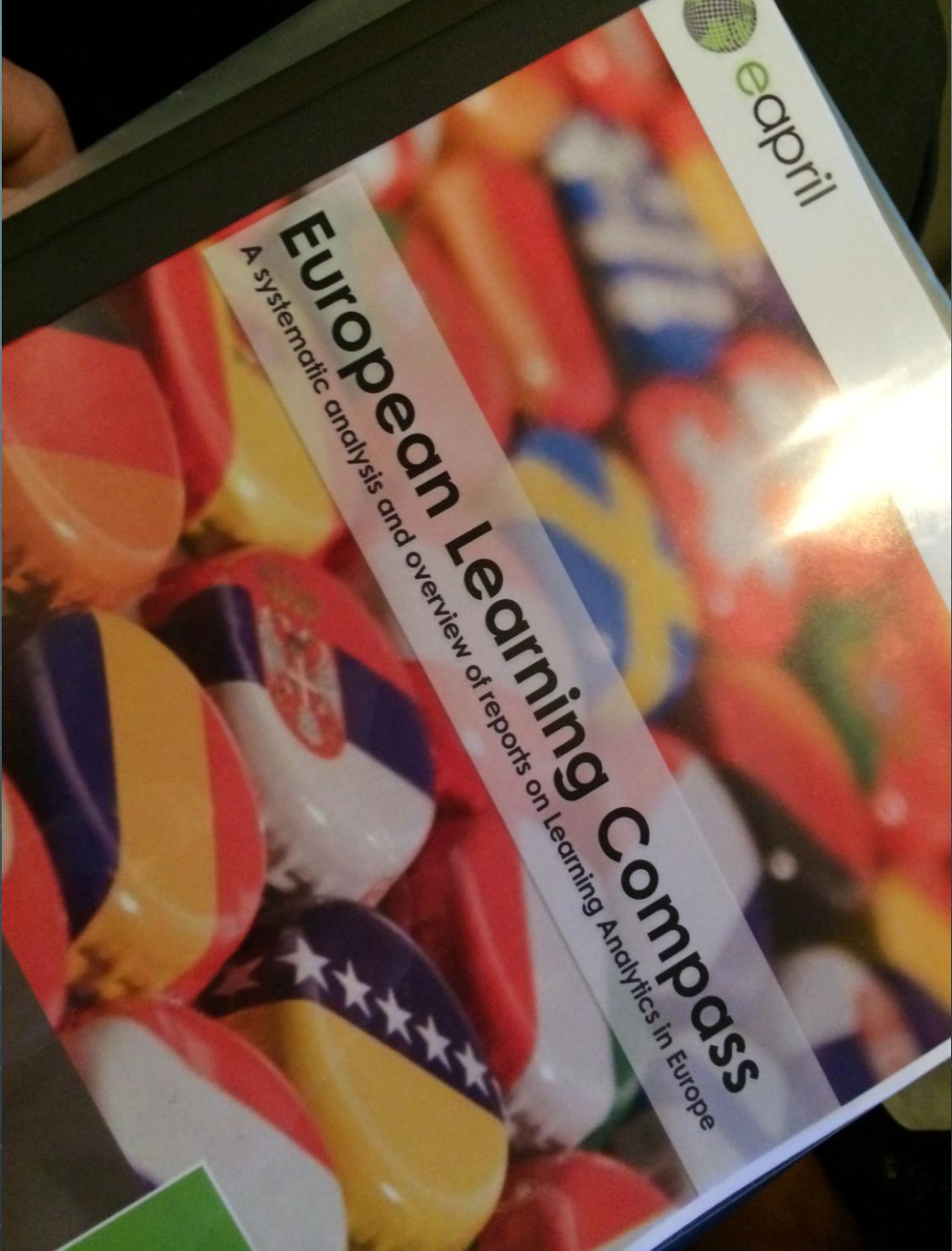- Self-Efficacy
- Adaptability

Problems- 3 Learning Analytics

eapril

European Learning Compass

A systematic analysis and overview of reports on Learning Analytics in Europe
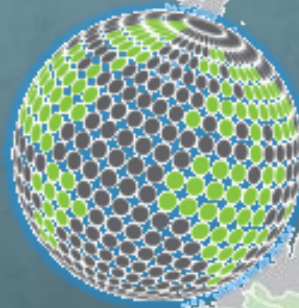
Learning analytics

Steering based on feelings or on data?

Learning Analytics

Measures and tools used to collect data about learning and development in order to monitor, evaluate and improve learning environments and outcomes (Elias, 2011)

- How many hours of internal training do employees receive?
- Who receives L&D activities?
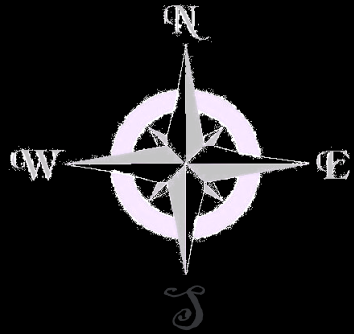- What skills need to be trained?

THE EUROPEAN LEARNING COMPASS

Decoding the Black Box

1 **Collect and code existing learning analytics**

2 **Thematically structure coded finding**

3 **Identify L&D professionals' interests based on findings**

4 **Create graphical overview**

5 **Comparison to academic research to detect development potential for future learning analytics**

By

Qualitative meta-analysis drawing upon Grounded Theory

(Fengfeng 2009; Glaser & Strauss, 1967)

Traffic Light System

(Newcastle University, 2009; Basel Committee on Banking Supervision, 2005)

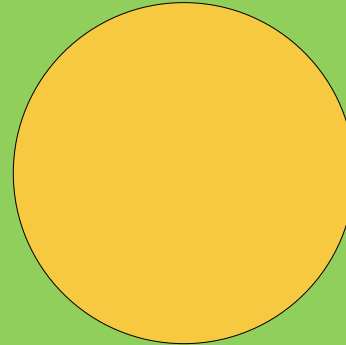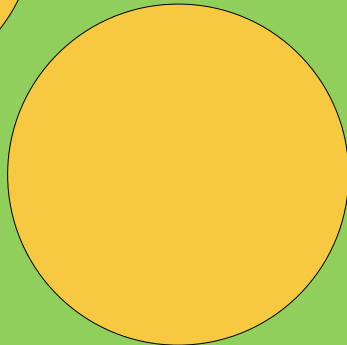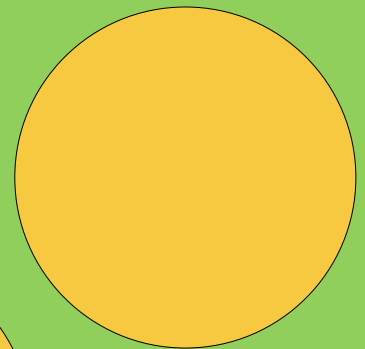Theoretical Comparison to state of the art research

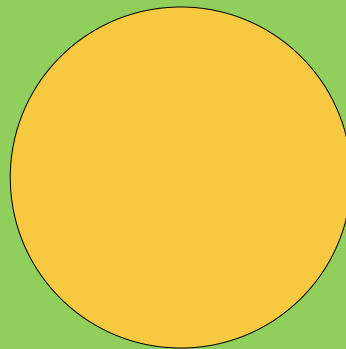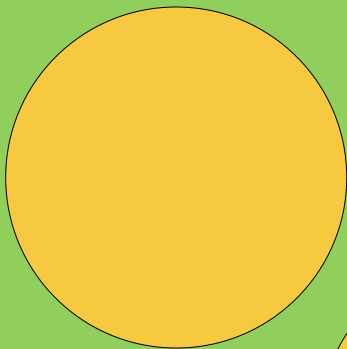(Salas et al. 2012; Tannenbaum et al. 2010)

Searching L.A.

So what do you think?

How many reports, associations, benchmarks, metrics could be found through this approach?
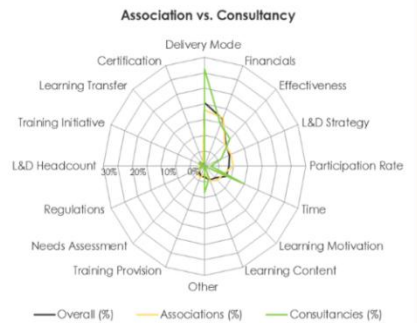
Some results

TOP THREE CATEGORIES

1. Delivery Mode
2. Financials
3. Effectiveness

Focus remains on abstract macro level and cost related measures

THEMATIC COMPARISON

High level comparison show general differences

Delivery Mode

- How is learning delivered? (formal)
- How is learning delivered? (informal)
- Which methods do learners prefer?
- How is the delivery mode evaluated?

Top 3:

1. Delivery Mode
2. Financials
3. Effectiveness

Financials

- How much did you spend for L&D per employee? (direct expenditure)
- How much did you spend per course?
- What was your consolidated direct expenditure for L&D as percent of payroll / revenues / profit?
- How much did you spend for internal and external (outsourcing) training provider?
- What were your total expenses for L&D (indirect & direct)?
- What were your average costs per unit of time?
- Does the government reimburse training costs?
- Who carries the costs for L&D activities (company, department or employee)?
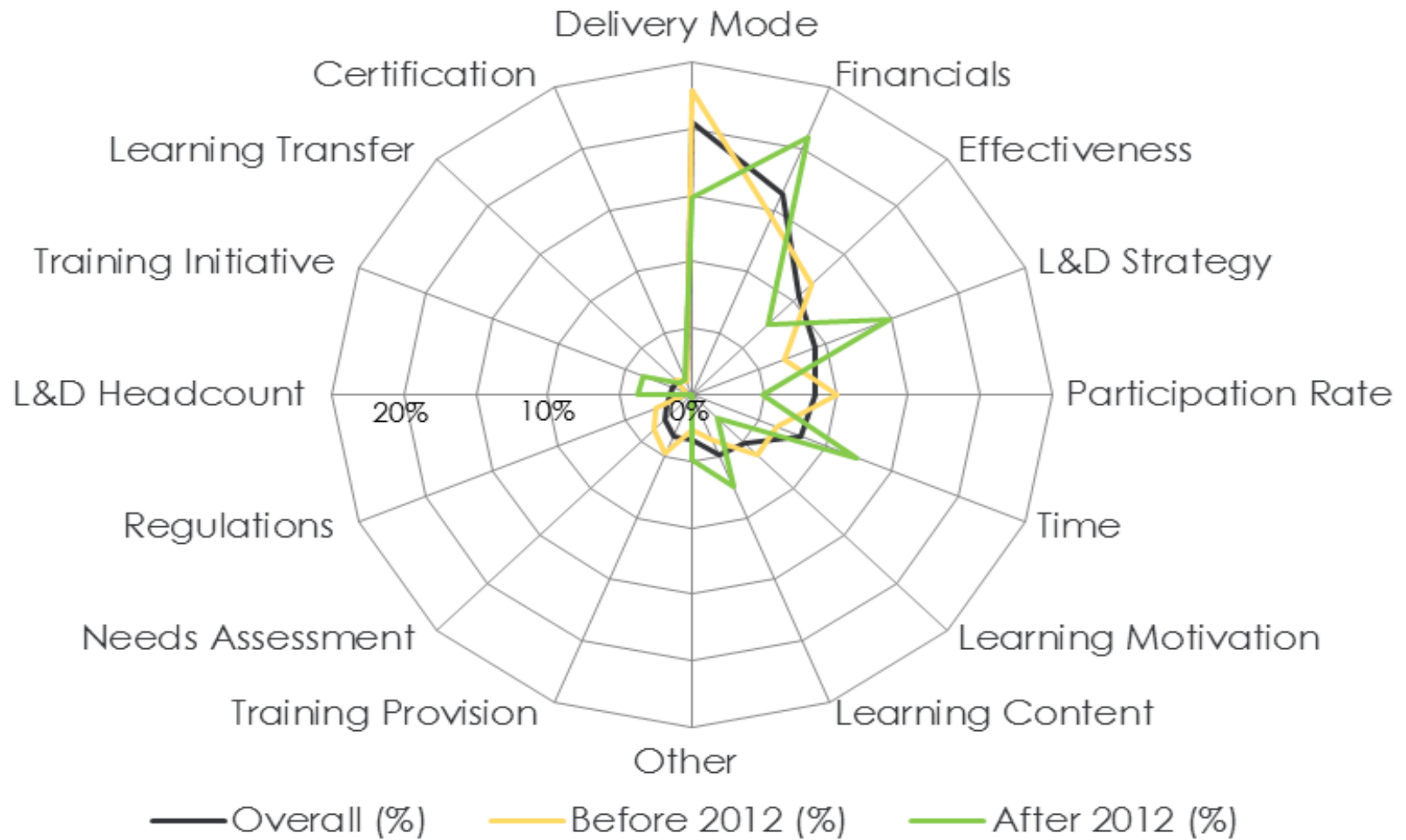- Which budget pots can be used by L&D responsible for L&D activities?

Effectiveness

- What techniques are used to improve training effectiveness?
- How do you measure L&D effectiveness?
- Did you achieve your goals by carrying out the learning activity?
- Does the training deliver an improvement (return)?
- Is training quality/effectiveness measured?

Learning Category	Definition	Example Learning Analytics
Financials	Gives an overview of overall expenditure, financing aspects and a breakdown of costs per learning activity.	▪ How much did you spend per course? ▪ Does the government reimburse training costs?
Learning Transfer	Addresses if skills learnt during learning activities are applied in the workplace.	▪ Did employees apply newly learnt skills after the training? ▪ Does the training design support knowledge transfer?
Learning Motivation	Summarizes the different motivational aspects related to learning.	▪ How can training participation be stimulated? ▪ What is your motivation to undertake a training initiative?
Time	Shows measure companies to d time is spent on	
Learning Content	Includes analyti content of learn	

Learning Category		Example Learning Analytics
Delivery Mode	Provides an overview of questions related to the delivery of learning.	▪ How is learning delivered? ▪ How is the delivery mode evaluated?
Participation Rate	Summarizes who and how many participate in learning activities.	▪ Who receives L&D activities? ▪ What is the percentage participation rate in learning activities?
Needs Assessment	Depicts questions asked regarding who and what needs to be trained.	▪ What is the need for training of different target groups? ▪ Which skills need to be trained?
Regulations	Gives a summary of regulatory influence on training activities.	▪ Are there any regulations regarding training? ▪ What aspects of training are regulated?
Effectiveness	Gives an overview of analytics related to the effectiveness of learning activities.	▪ What techniques are used to improve training effectiveness? ▪ Does the training deliver an improvement(return)?
L&D Strategy	Addresses all questions raised regarding company strategies related to L&D.	▪ Are your L&D activities linked to business strategy? ▪ What are trends and priorities in the L&D field?
L&D Headcount	Measurement of the number of employees employed within the field.	▪ How much L&D staff do you employ? ▪ What is the number of training departments within the company?
Certification	Shows question related to certification of learning activities.	▪ Which certificates are relevant for competencies/ trainers/content?
Training Provision	Gives an overview of analytics regarding who provides the learning activities.	▪ Who delivers the training? ▪ What is the ratio of companies providing training?
Training Initiative	Addresses question related to proposing learning and development.	▪ Who initiates/plans the learning activity?

Before vs. After 2012

Legend: Overall (%), Before 2012 (%), After 2012 (%)

Categories: Delivery Mode, Financials, Effectiveness, L&D Strategy, Participation Rate, Time, Learning Motivation, Learning Content, Other, Training Provision, Needs Assessment, Regulations, L&D Headcount, Training Initiative, Learning Transfer, Certification

Scale: 0%, 10%, 20%

Benchmarking the results

Benchmarking

Apples & pears?
Over countries, sectors,
Types of companies, etc.

Relevance

We want

- Direct comparison with competitors

- Best practices

- Evaluation L&D activitiy compared to the market

But,
- **Measurements have to be comparable**

- **European level learning analytics do not meet this requirement: less perceptions, more data driven**

Differentiation

- **Macro:** high level analytics allow for broad and general comparisons

- **Micro**: context specific benchmarks which provide a concrete point of reference

4/30/2015

Finding a Gap
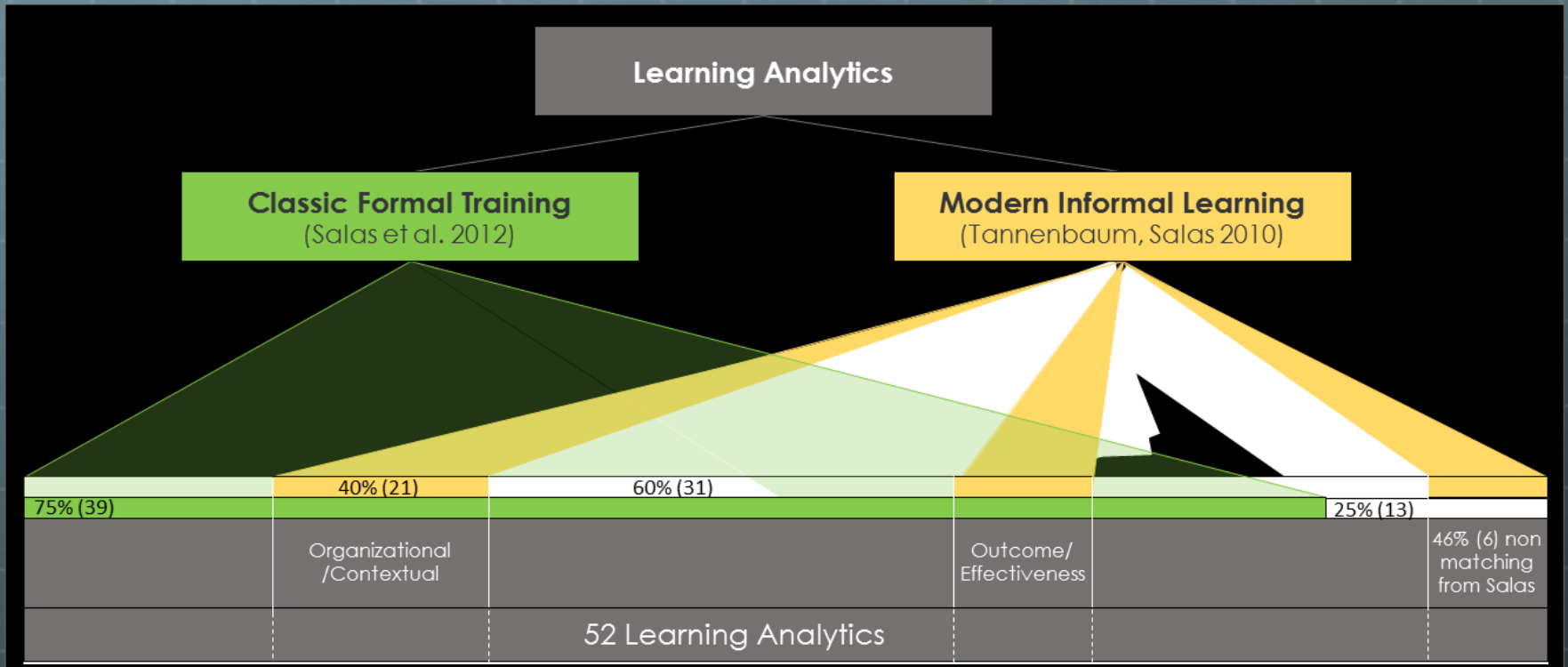
There is a gap between theory and practice. While practice focuses on measuring formal training outcome, state of the art research calls for informal learning activities at the workplace.
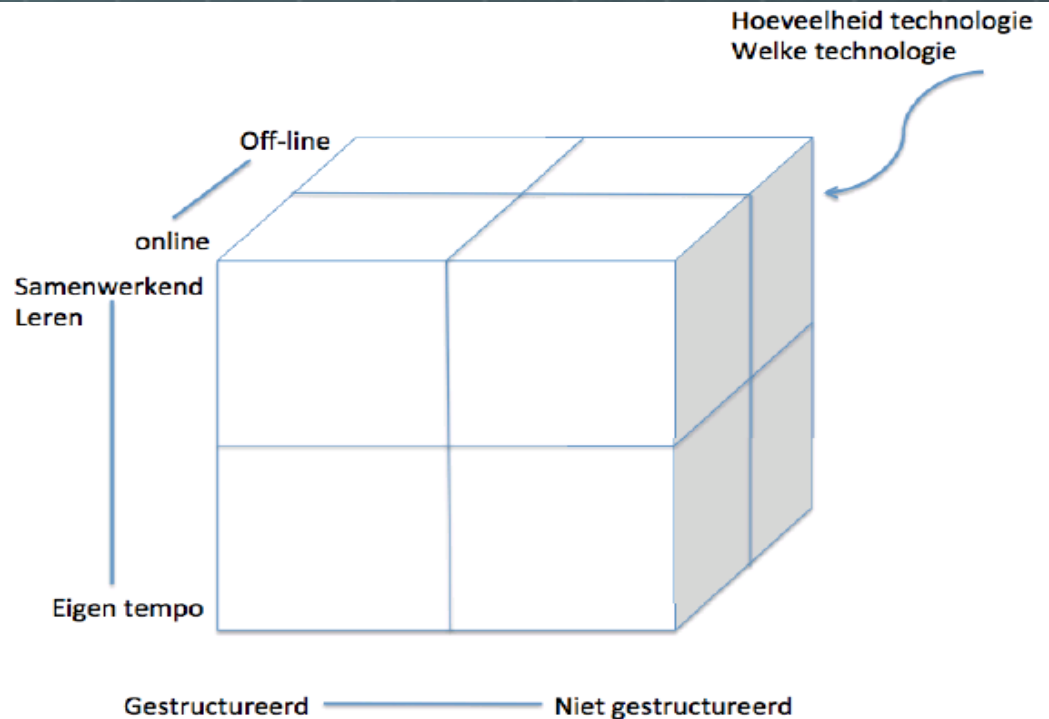
Problems- 4 E-learning

E-learning:
Simply providing new content
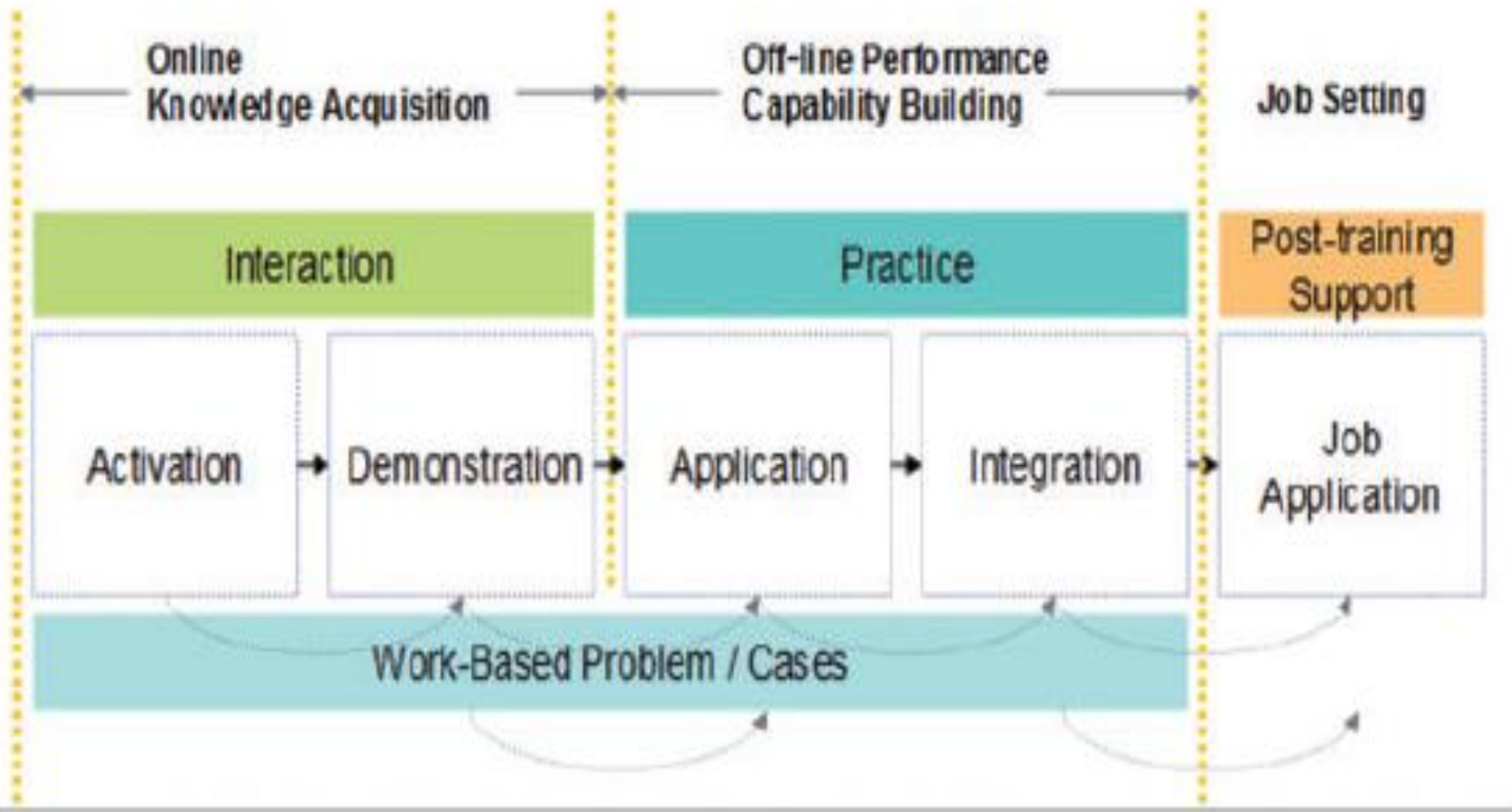via a platform
 –does that work well?

Hybrid learning:

Blend van online/off line, collaboratief/individueel, gestructureerd/ongestructureerd (via meetings, conversaties of e-mail) door event-based activities, face to face classrooms, live e-learning, and self-paced learning, etc.

PREPARATION

2 months	LMS	Survey trainee characteristics
1 month	F2F	Pre-coaching session
1 week	LMS	Teaser
		Advance organiser
		Basic information about the topics of the training

TRAINING

	15'	Exposition problem		
TOPIC 1	45'	Intro Theory 1		
	10'	*Break*		
	90'	Exercise	10' 40' 40'	Individual reflection Group reflection Whole group agreement
	30'	Feedback		
	50'	*Break*		
TOPIC 2	50'	Error-based exercise	10' 20' 20'	Individual reflection Group reflection Whole group agreement
	60'	Theory 2		
	25'	Feedback		
	10'	*Break*		
TOPIC 3	30'	Theory 3		
	90'	Integrated exercise about the 3 topics		
	20'	Self-assessment		
	15'	Feedback Summary		
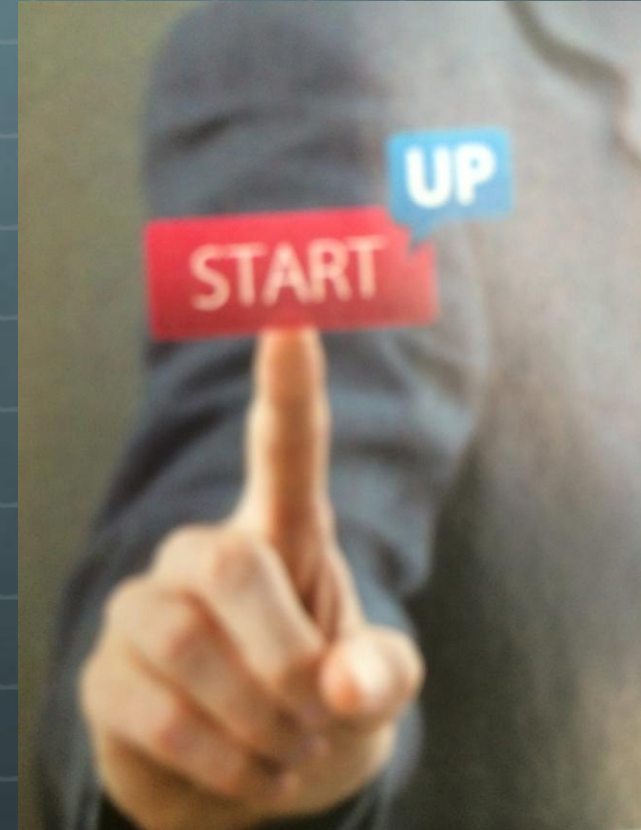
COACHING

1 day	LMS	Evaluation of the training
1 week	LMS	Discussion board
2 weeks	Skype/F2F	Individual difficulties – *Work-based assignment*
4 weeks	F2F	Peer-coaching
6 weeks	Skype	Individual progress – *Just-in-time information*
8 weeks	F2F	Reflection in group
10 weeks	F2F	Closing session in group
		Evaluation of the coaching

Problems- 5 Employability

Research among 780 employees in 3 organisations

**Key question : how can we increase sustainable employability of employees?**

A dynamic working environment requires employable people, e.g. :

1. Continuously updating knowledge and skills (**professional abilities**)

2. Being flexible, able to cope with change (**flexibility**)

3. Pro-actively tackling changes (**anticipation en optimalisation**)

The impact of informal learning on employability is significantly stronger than that of formal training

Solutions
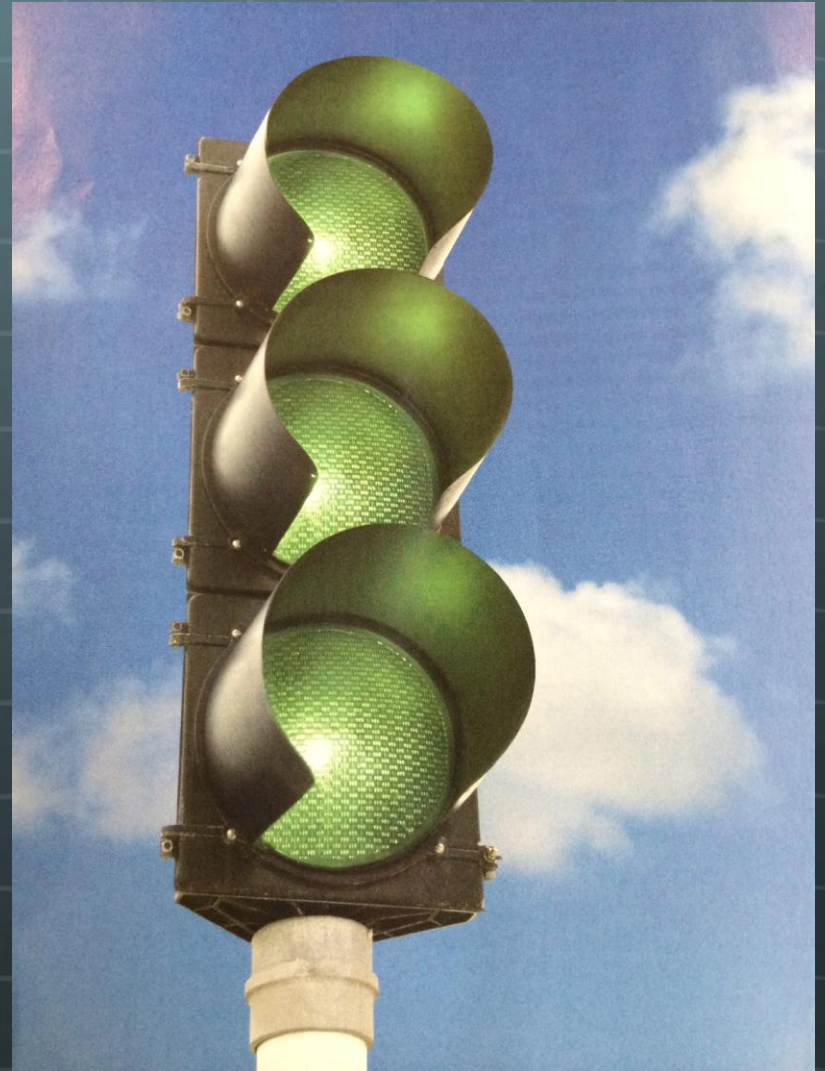
High Impact Learning

When does L&D have real effect?

High Impact Learning

1. Starting from a "gap / problem/ urgency/ need"

2. In action; in real-life situations; by doing

3. Supported by hybridity

4. Collaborative: interaction with peers

concluding

Key points and recommendations:

- Hybrid : een mix van e-learning, classroom training and workplace learning (also informal) with a LMS

- Feedback is een key issue: "peer-feedback can de used as a substitute for collective trainer feedback. More feedback and extended feedback conditions (providing support with tools) leads even to better results".

- To steer via Learning Analytics more concrete data are needed about learning behaviour of employees and a framework for interpreting these data is needed for each sector.

High impact learning

- **Learning climate – trust**

- **Error based learning & feedback en feedforward**

- **Gap/ Real life/ Collaborative / Hybrid learning**

Filip.Dochy@ppw.kuleuven.be

O2L - Centre for Research on Professional Learning & Development, Corporate Training and Lifelong Learning
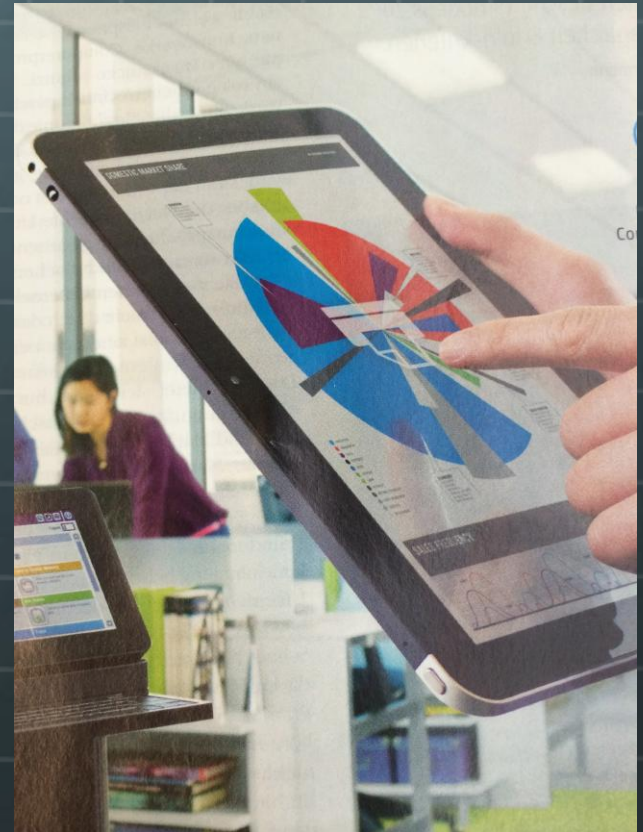
"High impact learning"

(Dochy, 2015; Dochy, Berghmans & Koenen, 2015)

Voor Dochy, 2015 zie hoofdstuk in: In 't Veld, R. et al. (2015). Kwaliteit van onderwijs. (verschijnt in juni 2015)

Publicaties :

http://ppw.kuleuven.be/o_en_o/pooll/publicatiespooll/publfdochy