good teaching in less time
An approach to boosting innovative education
“Learn from each other.”

Bas Flipsen
Research question

How can we facilitate **time-efficient and learn-effective** online and offline teaching techniques?

By developing:

- Tool & method finder
- With performance indicator
- Instructables on ways to implement successfully

Ref: [www.instructables.com](http://www.instructables.com)

• 195 Influences Related to Student Achievement
• Evidence-based: 1200 Meta-studies
• Six areas:
  • student
  • home
  • school
  • curricula
  • Teacher
  • teaching and learning approaches

TEACHER-READY RESEARCH REVIEW
The Applicability of Visible Learning to Higher Education

John Hattie
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The Visible Learning research is based on a synthesis of 1200 meta-analyses relating to influences on achievement. This article focuses specifically on the evidence and implications for higher education teachers. As nearly every intervention can show some evidence of success, we need to ask not “What works?” but “What works best” and seek comparisons between different ways of influencing student learning. The major implications relate to teachers who work with others to seek evidence of their impact on students, who inform students early what success looks like especially about surface and deep learning, who provide appropriate levels of challenge and feedback, and who have aligned their claims about success, assessment, and teaching.

Keywords: learning, meta-analysis, teaching strategies

Today’s university students are diverse, not necessarily self-regulated, having varying skills in learning strategies, and need to be deliberately taught. This begs for a robust discipline about the scholarship of teaching and learning at the university level to best identify what works. Whereas many thousands of studies on university learning exist, few major syntheses exist (see Pascarella & Terenzini, 2005). This article uses a synthesis of meta-analyses relating to university students from the Visible Learning (VL) research based on more than 65,000 studies including 14/4 million students aged 4 to 20-25 (Hattie, 2009, 2012; Hattie & Anderman, 2013; Hattie & Yates, 2014; Hattie, Masters, & Birch, 2015). The aim is to summarize key findings related to major influences on learning and managing emotions (including those that interfere with learning such as anger, anxiety, hopelessness and those that enable learning such as optimism, hopefulness); mature interpersonal relations (such respecting differences and working with peers); moving from autonomy to independence (including moving from needing assurance and approval of others to self-sufficiency), problem solving, and making decisions; establishing identity including enhanced self-esteem and self-efficacy; developing purpose (from Who am I? and Where am I? to Where am I going?); and developing integrity. Higher education is as much as about identity, reputational enhancement, and growing as it is about becoming knowledgeable.
Hattie Ranking - Interactive Visualization

Just click on the legend to show/hide/compare effect sizes from different Visible Learning publications. The chart will be updated automatically.
Effective learning:

1. Teacher credibility
2. Micro teaching
3. Teacher clarity
4. Reciprocal teaching
5. Feedback
6. Teacher-student relationships
7. Formative evaluation
8. Problem-solving teaching
9. Time on Task
10. Spaced vs. mass practice

Efficient teaching:

What about your time?

- Spend your time where it has effect on learning
- Remember the purpose of the activity
- Gain time by eliminating time on:
  - ‘finishing’ students’ work
  - Marking Courseware
  - Learning activities that don’t generate appropriate study
  - Designing and correcting exams
  - Listening to students complaints
  - Writing feedback
  - …

4. Reciprocal teaching

Construction & materials io1070

- Before:
  - workshops,
  - 30+ students,
  - individual attention
4. Reciprocal teaching

Construction & materials io1070

- Before:
  - workshops,
  - 30+ students,
  - individual attention

- Problem:
  - time-consuming for teacher
  - low student attendance

- New approach:
  - prep-time for one exercise
  - 5 students at one table
  - present solution to each other

- Yield:
  - high student attendance
  - effective teacher deployment
Peer to peer teaching

9. Time on Task

One to five teaching
Enough effective and efficient ideas and approaches
How to disseminate?
How to disseminate?

Engineering Teachers’ cookbook

• With recipes for time-efficient and learn-effective teaching
• Hands-on step-by-step approaches
• Developed by teachers, the chef-cooks
Why Recipes?

Documenting good practices

- ... in a structured way
- ... easily accessible
- ... by peer-to-peer exchange
- ... in a community setting
- ... edited by community members
- ... positive development-oriented way of knowledge building
How to disseminate?

- Online Teaching Community
  - Hubs
  - Recipes
  - Blogs
  - Events
  - Members
  - Opening in December 2017

- Offline Workshops
  - Industrial Design Engineering
  - Mechanical, Maritime & Materials Engineering
  - Applied Sciences
  - OpenWS on December 5
3mE Lecturers’ Day 2017

Programme

- 9.00 Walk in & Coffee
- 9.15 Welcome & Intro
- 9.45 3mE Community & Cookbook
- 12.00 Exam instruments
- 12.30 Lunch
- 13.30 3mE updates
- 14.30 Workshop
- 17.00 Closure & Drinks

building the 3mE community
Concluding

Learnings

• Teachers talk about education
• Learn from each other
• Finding consensus about teaching approaches
• Reflection on Workload
• “finally it is about me instead of the student only”

• Future
• Online Cookbook
• Open the online version to everyone
Recipes

Submit new recipe

Peer Learning by Letting Students Teach

After every lecture we organize two-hour workshops for students to work on problems related to the theory conveyed just before. Unfortunately the workshop activities are not always interactive. It is common to see students sitting passively while the teacher explains the topic. This can be improved by engaging the students more actively in the learning process.

Lean on me: Stand on the Shoulders of TEDx

Preparing and giving a lecture takes a lot of time. Therefore, we make use of existing Internet content. More specifically, we use fragments of existing TED Talks to inspire students and to explain complex concepts in a more engaging way.

How to Teach Effectively by Using Silence more Consciously

If teachers would use silence more consciously and more functionally, they would create more 'space' for students to reflect on what they have learned. "Silence is golden" is an old cliché, but it is true that periods of silence can be very effective in teaching. These moments can be strategically placed to allow students to think about the material or to formulate their own ideas and questions.