Symposium EAPRIL 2023, Belfast

Building bridges between online and face-to-face in higher education: The ideal blend

dr. Hanneke Theelen
dr. Marcel van der Klink & dr. Miriam Goes,
dr. Claudio Vanhees & dr. Milou de Smet

Moderator: dr. Nynke Bos

3 Studies

Designing online & blended education

Moderator: dr. Nynke Bos

01 **THE DIDACTIC AND PEDAGOGICAL DESIGN OF E-LEARNING IN HIGHER EDUCATION**

dr. Hanneke Theelen

02 **COLLECTING IDEAS OF TEACHERS AND STUDENTS TO FURTHER DEVELOP BL. A GROUP CONCEPT MAPPING APPROACH**

dr. Marcel van der Klink
dr. Miriam Goes

03 **BALANCED BLEND: DESIGN PRINCIPLES TO EFFECTIVELY PROMOTE STUDENT LEARNING AND PSYCHOSOCIAL WELL-BEING**

dr. Claudio Vanhees
dr. Milou de Smet

We Would Love To Hear From You

Project:
Team:
Version & Date:

FEEDBACK CAPTURE GRID

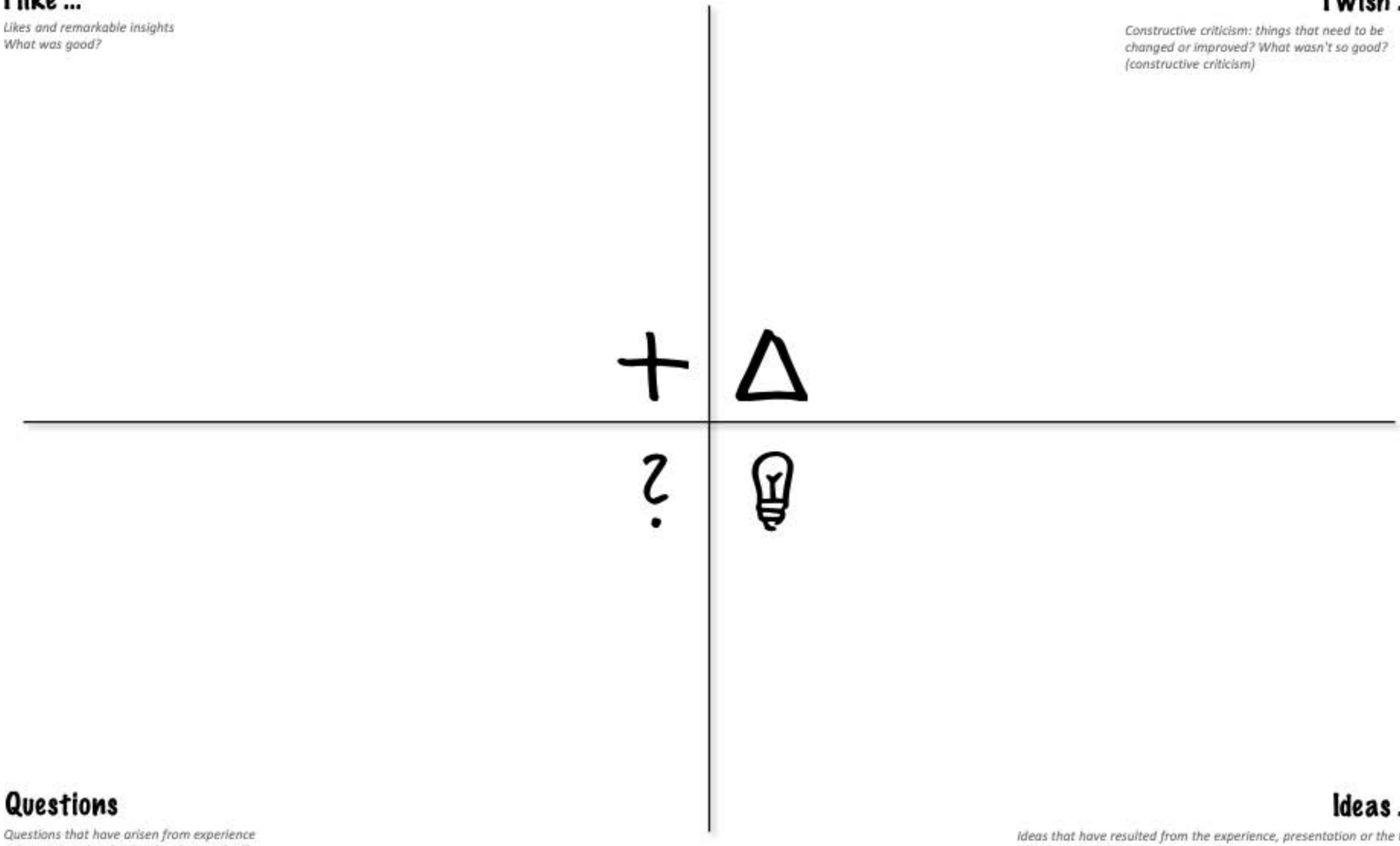
Quick guide: The Feedback Capture Grid supports the testing of ideas with prototypes, for example, by offering a possibility to document test results in a very simple form. It is mainly used when it comes to finding out how well an idea solves a previously identified user problem. The Feedback-Capture-Grid has the goal to gain a deep understanding if and how the problem can be solved and if the idea is the right solution at all. It can also be used to get feedback on the process, a workshop or other events. The Feedback-Capture-Grid supports the constructive criticism and a positive mood in the team, because it uses the answer technique "I like" / "I wish" The Feedback Capture Grid can also be used, for example, to document open questions that are still in the room and new ideas that should be recorded.

I like ...

Likes and remarkable insights
What was good?

I wish ...

Constructive criticism: things that need to be changed or improved? What wasn't so good? (constructive criticism)



Questions

Questions that have arisen from experience
What was unclear? What has been asked?

Ideas ...

Ideas that have resulted from the experience, presentation or the test
What new ideas came out of the test?

Study 1

The didactic and pedagogical design of e-learning in higher education

- dr. Hanneke Theelen - Zuyd University of Applied Sciences - The Netherlands - presenting author
- dr. Dave van Breukelen - Fontys University of Applied Sciences - The Netherlands

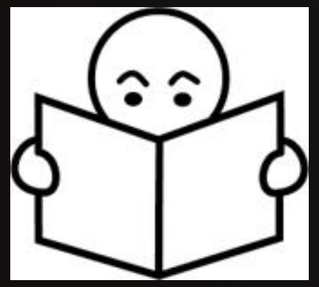
Where a walk in the woods can lead to...

COVID-19
PANDEMIC

INCREASING
ROLE OF ONLINE
EDUCATION

Does e-learning need different didactics and pedagogy?

LITERATURE REVIEW



At the end of this presentation, you have ...

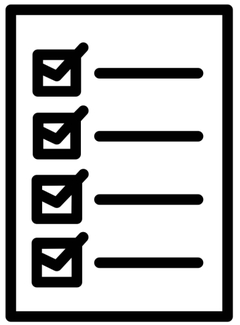
RECOMMENDATIONS TO DESIGN YOUR OWN ONLINE AND BLENDED EDUCATION

What can you expect during this presentation?

1. WHAT IS E-LEARNING?

2. METHODOLOGY

3. DESIGN PRINCIPLES



Using technology does not automatically lead to better teaching. That requires proper didactics and pedagogy.

What is e-learning?

FACE-TO-FACE
TEACHING

ICT IN SUPPORT OF
FACE-TO-FACE TEACHING

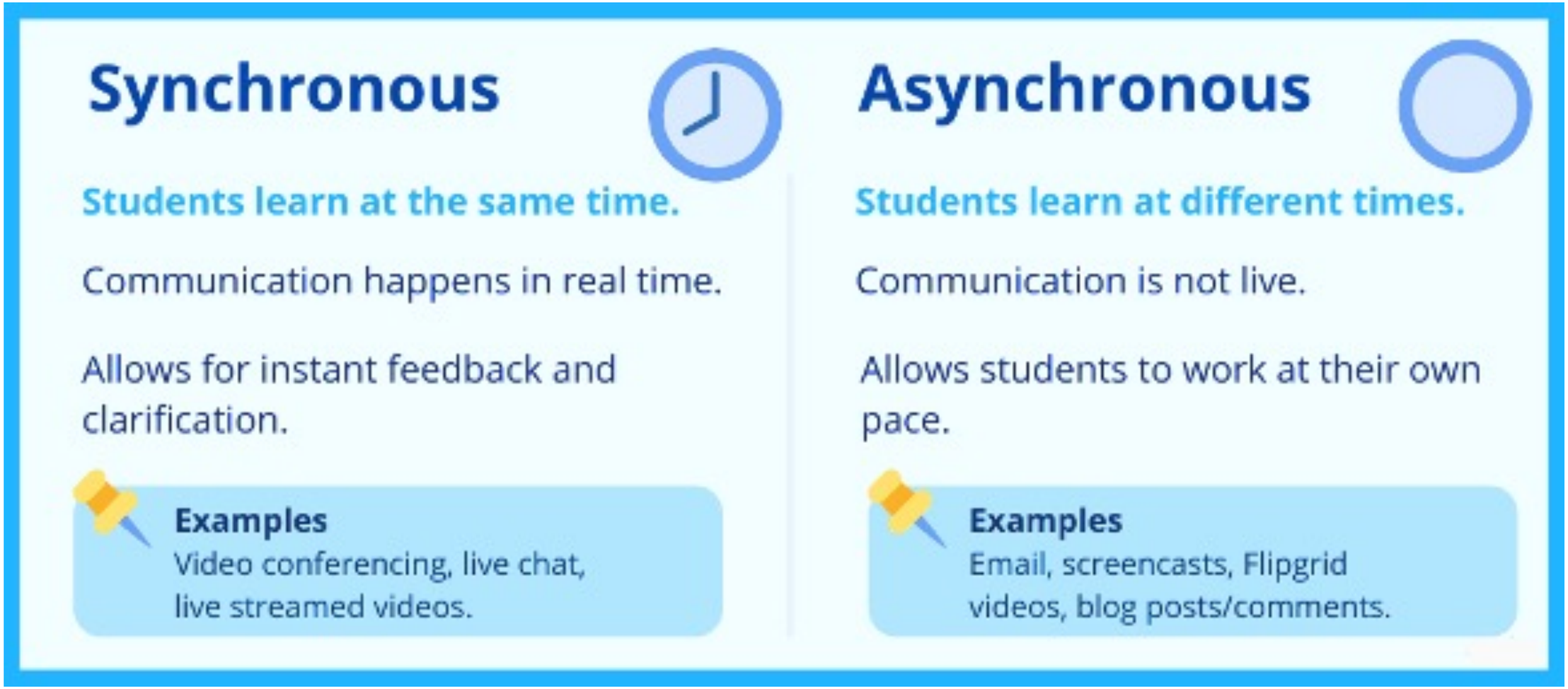
BLENDED LEARNING
FACE-TO-FACE & ONLINE

FULLY ONLINE
DISTANCE LEARNING

NO TECHNOLOGY — TECHNOLOGY ENHANCED ◄---------- eLEARNING ----------► FULLY TECHNOLOGY ENHANCED

When technology is used to (partially) support or replace face-to-face education (Bullen & Janes, 2007).

Interaction & synchronicity

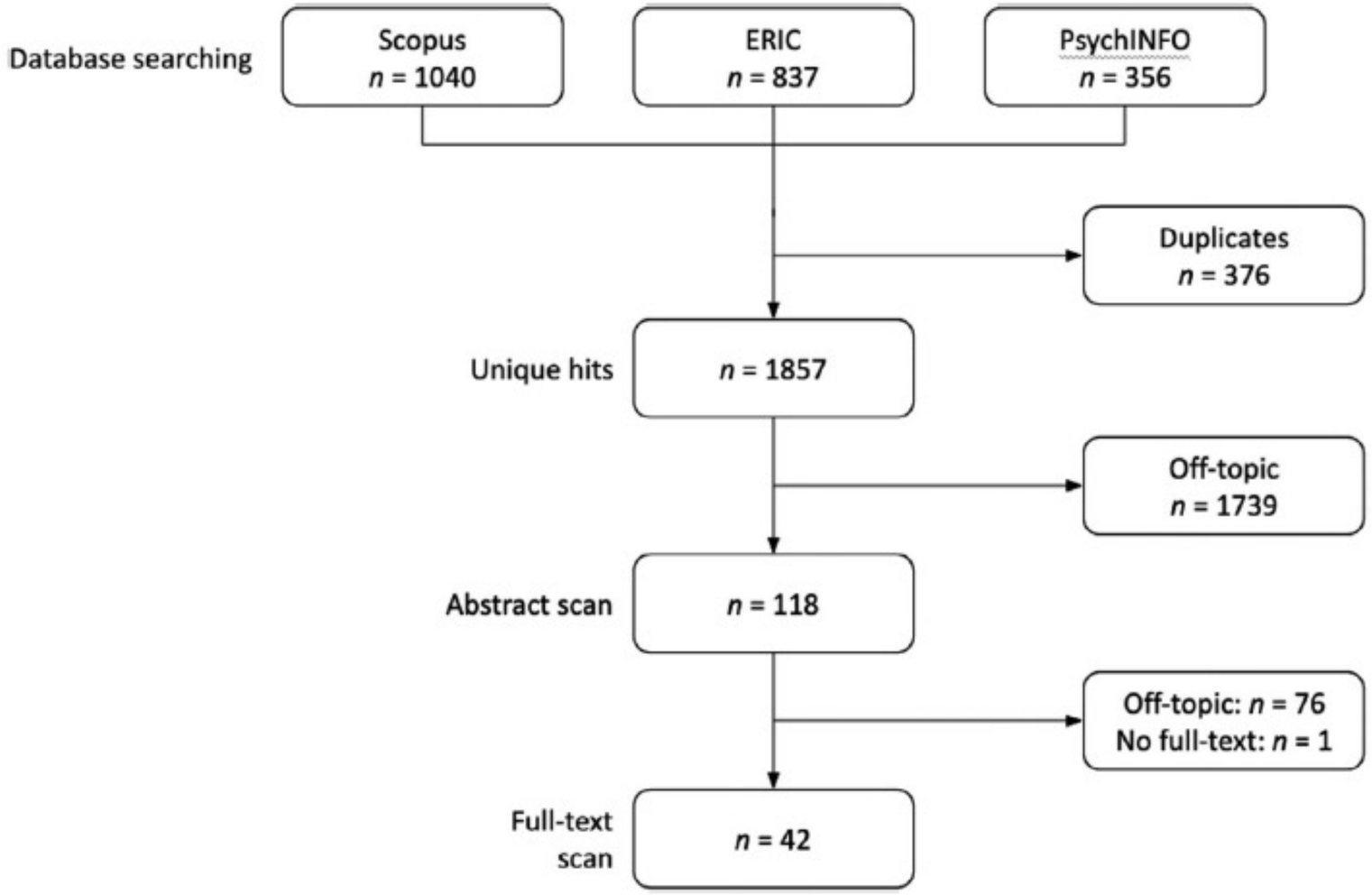


"The use of ICT is not an educational improvement in itself. ICT is a tool whose potential must be exploited."

ICT

non-ICT

Systematic literature review (2010-2021)



Inclusion criteria

ENGLISH

PEER-REVIEWED

QUALITATIVE
QUANTITATIVE
MIXED METHOD

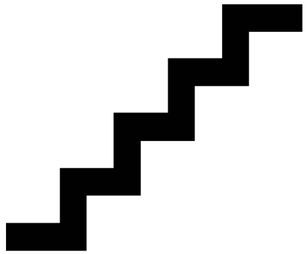
KEYWORDS:

- online education
- didactics/pedagogy
- higher education

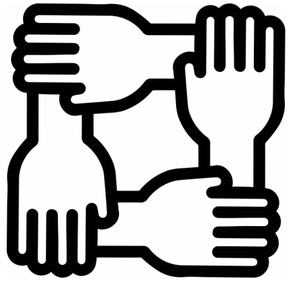
Four categories

AUTHENTIC & ACTIVE LEARNING

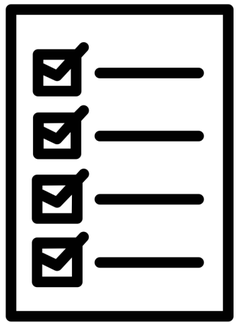
CONTENT & PROCESS SCAFFOLDING



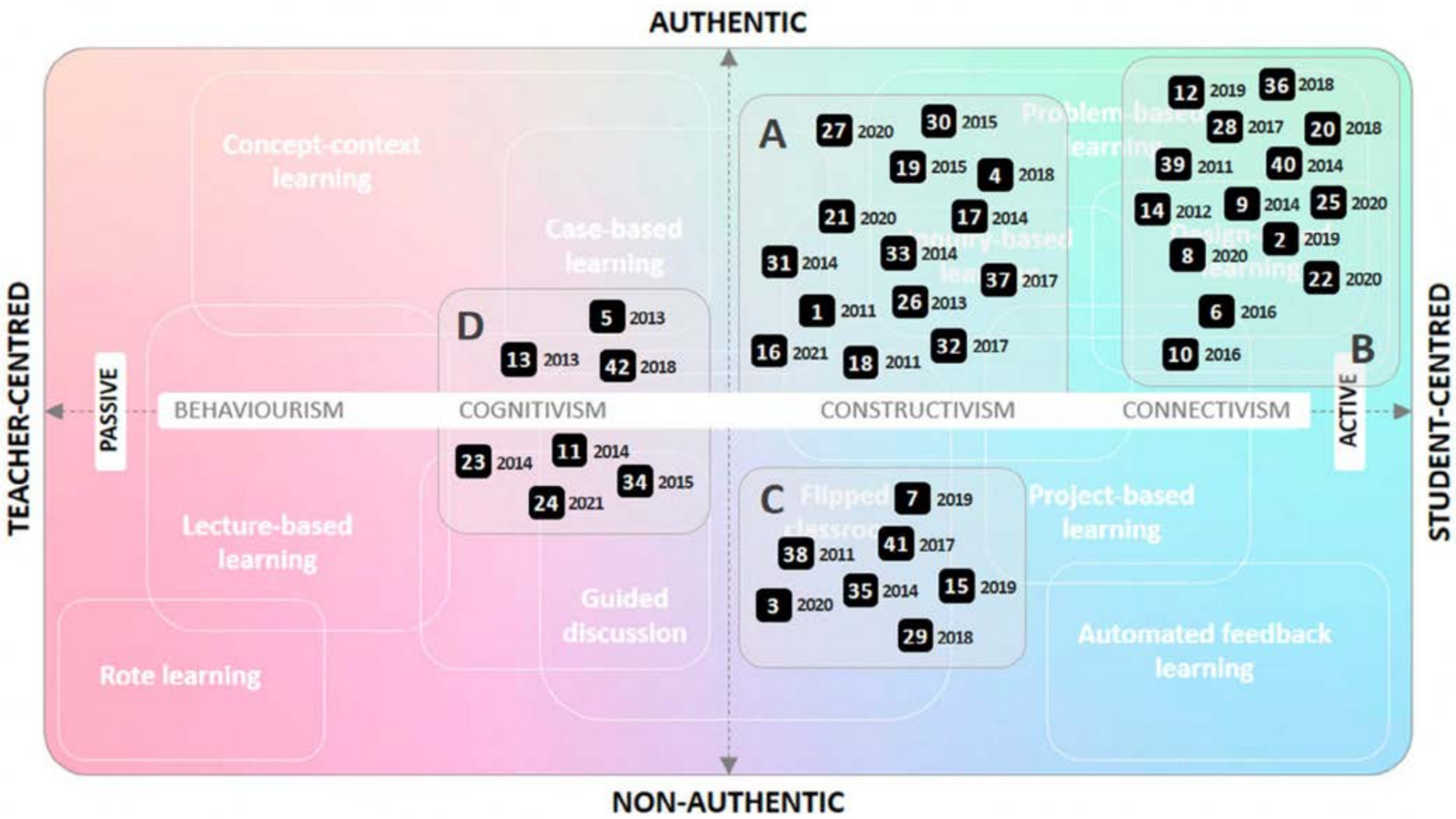
PEER-TO-PEER LEARNING



FORMATIVE STRATEGIES



1. Authentic & active learning



1. Authentic & active learning

- Address and discuss familiar cases to activate preknowledge and to facilitate transfer
- Use engaging and diversified learning activities (e.g., quizzes) and strategies
- Use active reading and viewing strategies
- Provide students with hands-on, activating learning tasks (e.g., simple ‘home experiments’, short field trips).
- Address problems or tasks based on higher order thinking skills (e.g., concept mapping).

EXAMPLES OF ACTIVE LEARNING STRATEGIES

1. Authentic & active learning

- Address and discuss familiar cases to activate preknowledge and to facilitate transfer

EXAMPLES OF ACTIVE LEARNING STRATEGIES

2. Content & process scaffolding

- Use asynchronous interactions to deliver course information and content.
- Use synchronous interactions for discussion and deepening of the content.
- Be aware of redundant information during synchronous interactions.
- Use various media and visual clues when presenting (new) content.
- Provide learners with sufficient time between asynchronous and synchronous interactions to process (new) information.
- Create flexible elements and learning routes based on freedom of choice.
- Set up well-organized courses and tasks with clear directions, guidelines, goals, and completion criteria.
- Provide 'knowledge and skill builders', which are short, focused activities by which students, if necessary, can increase their competences before addressing more complex activities.

2. Content & process scaffolding

- Use asynchronous interactions to deliver course information and content.
- Use synchronous interactions for discussion and deepening of the content.

3. Peer-to-peer learning

- Offer different (a)synchronous possibilities for peer-to-peer learning.
- Discussions need to be carefully guided.
- Arrange collaboration by a fixed strategy (e.g., think-pair-share, check-in-duos).
- Ask students to actively help each other and even to create learning content for each other.
- In addition to peer-to-peer learning, teachers are crucial for students to establish proper knowledge structures.
- Use a 'peer grade system' to motivate students to become actively involved in peer-to-peer learning.

3. Peer-to-peer learning

• Offer different (a)synchronous possibilities for peer-to-peer learning (e.g., chatrooms, discussion forums, e-mail, social media, and blogs).

4. Formative strategies

- Give timely feedback and provide feedback on content, process, and attitudes.
- Provide fixed moments for self-reflection and offer a reflection method.
- Use multiple moments and strategies for formative assessment.
- Monitor students' individual progress, based on ongoing assessment, and provide students with individual assistance or guidance.
- Use speaking and reasoning exercises combined with direct expert feedback in a synchronous setting as an assessment strategy.

27 FORMATIVE TOOLS

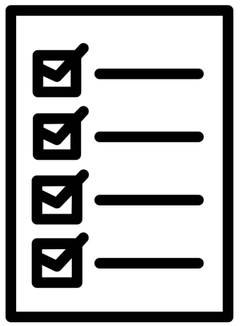
4. Formative strategies

- Monitor students' individual progress, based on ongoing assessment, and provide students with individual assistance or guidance.

27 FORMATIVE TOOLS

But how do you put these into practice?

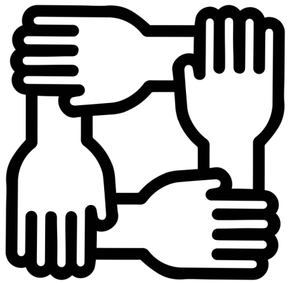
NO READY-
MADE RECIPE /
FIXED FORMAT



ACCESIBILITY
& USABILITY
ARE CRUCIAL

AVOID
"OVERKILL"

DESIGN
TOGETHER



One last tip

Design from back to front

There is still plenty to explore!

- Only a few studies were truly evidence-based or informed.
- There is still room to further explore and validate the design principles ☺.

Article

Want to know more?

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Study 2

Collecting ideas of teachers and students to further develop BL. A Group Concept Mapping approach

- dr. Marcel van der Klink - Zuyd University of Applied Sciences - The Netherlands
- dr. Miriam Goes - Zuyd University of Applied Sciences - The Netherlands

Zuyd University of Applied Sciences

Situated in three cities in the south of the Netherlands. Offering bachelor and master degrees, short programs for approximately 14000 students

Timetable for this presentation

- 1. Backgrounds
- 2. The method of Group Concept Mapping (GCM)
- 3. The set up and findings of our study at Zuyd Hogeschool

Group Concept Mapping

Participatory Research Method

Background and research: question

- Covid pandemic involuntarily engaged in online education
- Overnight switch
- Catalyst for change afterward
- Collect the experiences of students and teachers

- Research question:
- *What is valuable in the present online education at Zuyd Hogeschool and ought to retain in our programs after the pandemic?*

The method of GCM

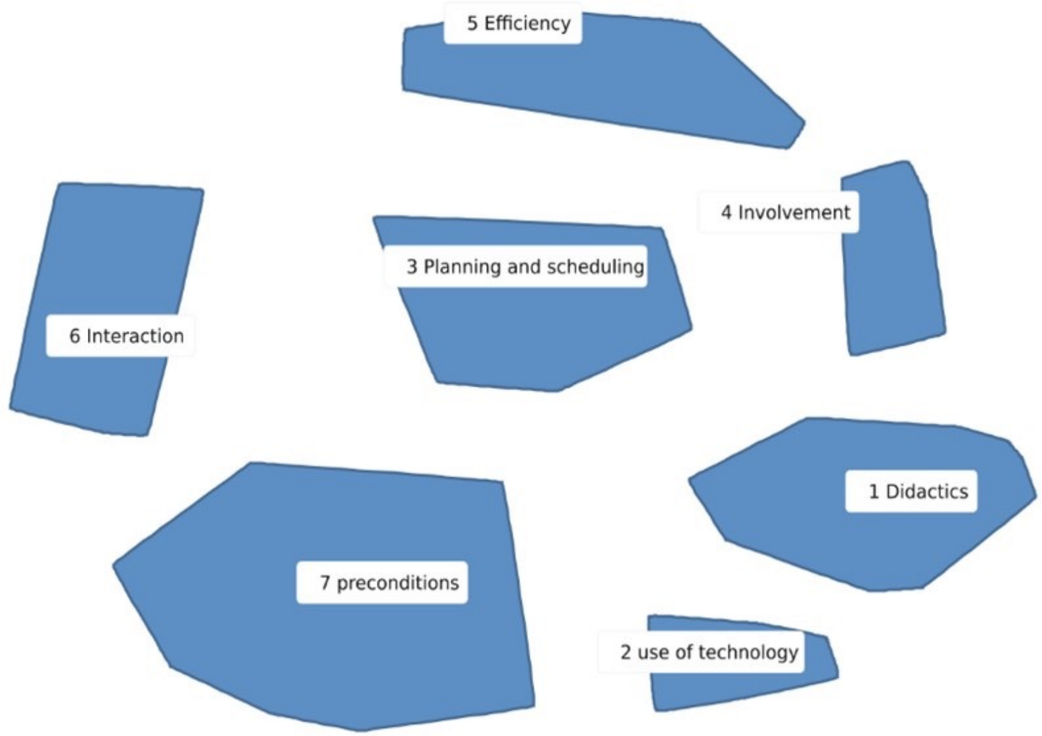
- Group Concept mapping is a method and a digital tool for participative research, including the following steps:
- Formulating a ‘focus prompt’ (our research question)
- The brainstorm phase: generating ideas by students and teachers with the focus prompt in their minds
- The clusering phase in which statements are clustered by experts (into themes)
- The rating phase in which the statements are rated on importance and feasibility by students and teachers
- Analyses, interpretion and reporting by researchers

Brainstorm phase

- In the brainstorm phase we asked all students and teachers of Zuyd Hogeschool to react on the focus prompt.
- They could react (anonymously) as often as they wanted.
- Results:
  - 780 eventually started the brainstorm
  - 547 statements of which 331 were relevant and afterwards reduced by removing duplications and overlap of statements.
  - Check and dubbelcheck resulted into a final list of 84 statements that matched the focus prompt

Clustering the statements

- During the sorting phase, 57 colleagues (policymakers, and educational advisors) clustered these statements individually. The software performed a hierarchical cluster analysis, resulting into seven clusters of statements: didactics, use of technologie, planning and scheduling, involvement, efficiency, interaction and conditions.



Content of the clusters

- (Pre)conditions: clarity and uniformity, information, support, evaluation
- Interaction: frequent (online) contact, both forms (online and f2f), short-term activities
- Planning and scheduling: travel time, schedule, agenda, breaks between lessons
- Didactics: recording, instructions, small groups, interaction
- Use technology: Share screen, use of MsTeams functions
- Interaction: Small-scale, both modalities (online and f2f)
- Efficiency: bridges distances for internships, guest lectures by experts

Rating statements

- During the rating phase students and teachers were asked to rate the 84 statements on its importance (response 278) and feasibility (response 196).

- We asked them:

1. How important is this for the study success of students at Zuyd?
2. How feasible is this to implement in the educational programs?

- (5 point rating scale 1=low, 5=high)

Importance and feasibility

- Ratings for the clusters ranged from 3.96 – 3.44 for importance and from 3.88 - 3.33 for feasibility, which indicate that all clusters are considered as fairly important and feasible as well.

Cluster label	Number of statements grouped in this cluster	Mean score importance	Mean score feasibility
1 didactics	18	3.79	3.64
2 use of technology	8	3.65	3.88
3 planning and scheduling	6	3.89	3.74
4 commitment	7	3.47	3.33
5 efficiency	17	3.44	3.63
6 interaction	10	3.93	3.38
7 preconditions	18	3.96	3.53

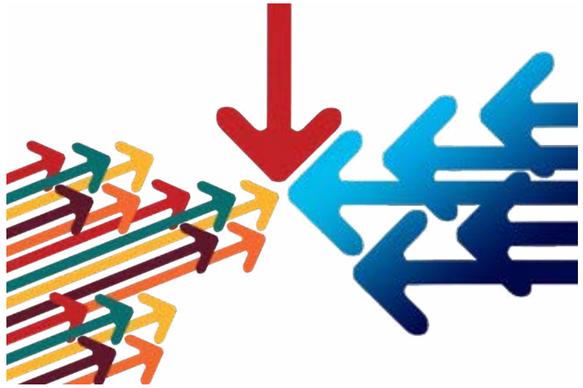
Conclusions

- ✓ Study was conducted during 2020 lockdown
- ✓ Participation levels in the different phases of the Group Concept Mapping point at a good quality of the study
- ✓ Study offers very practical ideas that are grounded in the daily experiences of students and teachers (use of MS Teams)
- ✓ Statements offer food for thought for educational change (next step)
- ✓ Ideas mainly point at the desire for a moderate change toward online learning and teaching, with f2f as the dominant modality for teaching and learning

Recommendations for further development online education

- Development of online education requires
- Integrated approach addressing pedagogical issues but also the presence of sufficient support in all kinds of areas and well-functioning technology
- An intensive collaboration of the various actors within the university

- And last but not least: online education is part of blended education. It's about the mix of online and f2f, seeking the right blend and this blend may vary for individual teachers and educational programs as well.



Study 3

Balanced blend: Design principles to effectively promote student learning and psychosocial well-being

dr. Claudio Vanhees
dr. Milou de Smet

Thomas More University of Applied Sciences – Belgium
Centre of Expertise Education and Learning

Context

- Emergency Remote Teaching (ERT) taught us **two important lessons**:
  1. Education goes beyond knowledge and skill acquisition
     - psychosocial well-being also plays an important role

THOMAS MORE EDUCATION AND LEARNING

Context

- Emergency Remote Teaching (ERT) taught us **two important lessons**:
  1. Education goes beyond knowledge and skill acquisition
     - psychosocial well-being also plays an important role
  2. Blended education goes beyond adding technology to existing lessons
     - purposeful and effective combinations are essential

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Blended education

“a deliberate and integrated combination of online and face-to-face education”

Source: Van Valkenburg, W. F., Dijkstra, W. P., De los Arcos, B., Goeman, K., Van Rompaey, V., & Poelmans, S. (2020). European Maturity Model for Blended Education (EMBED).

Literature review - Research Question

What are the effects of different **blended teaching formats** on **learning outcomes** and/or **psychosocial outcomes** in higher education students?

- **learning outcomes**: knowledge and skills
- **psychosocial outcomes**: satisfaction, (self-)efficacy, motivation, attitudes, engagement, participation

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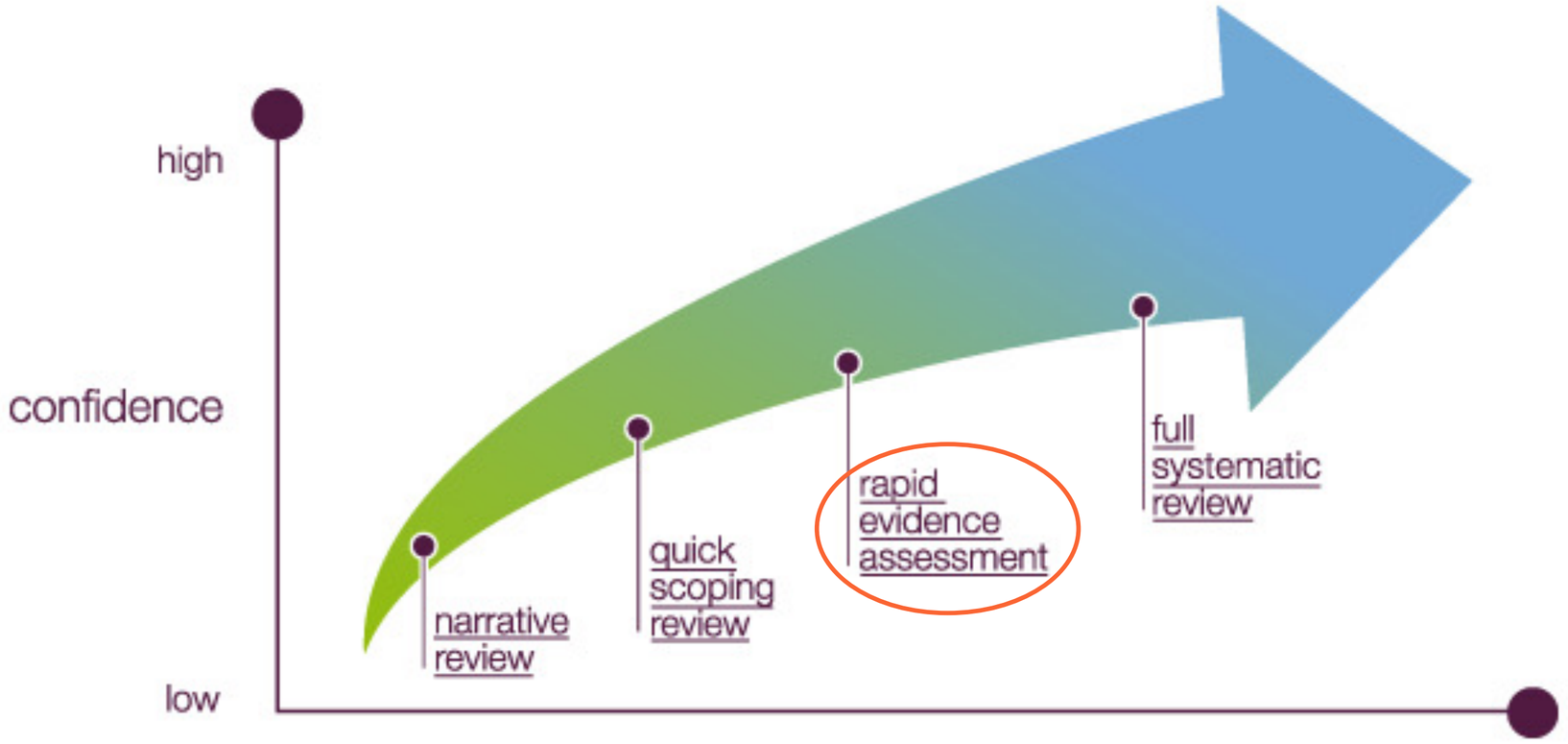
Rapid Evidence Assessment (REA)



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Inclusion and exclusion criteria - PICOS

- **Population**:
  - **Students** attending higher education
- **Intervention**:
  - Implementations of a **blended teaching format at course level** (taxonomy Margulieux et al., 2016)
- **Comparison group**:
  - Compared to a **face-to-face teaching format**
- **Outcomes of Interest**:
  - **Learning outomes** and **psychosocial outcomes** in students
- **Study Design**:
  - Exclusively **systematic reviews** and/or **meta-analyses** (critical appraisal)
  - Quantitative studies, minimum one experimental and comparison group

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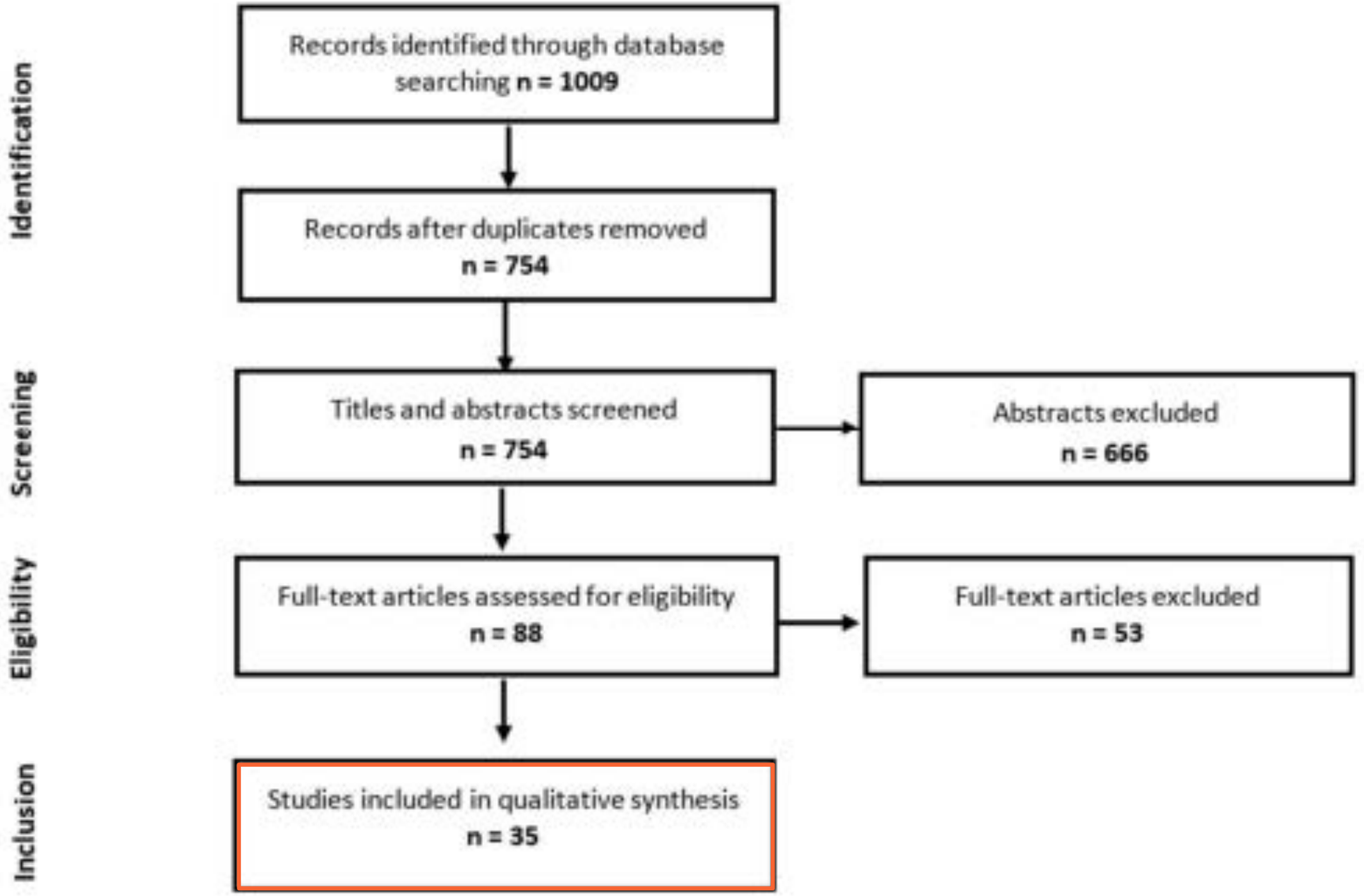
FLOW diagram



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Results REA

- Blended education **enhances learning** and **psychosocial outcomes** compared to FTF education 

  HOWEVER

- Blended education does **not automatically** lead to enhanced outcomes
  - **What works,** when and why?
  - **Instructional approach** plays a crucial role
  - **6 instructional design principles** and **2 organizational preconditions**

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Six instructional design principles

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Two organizational preconditions

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1- Choose based on your learning objectives

- Formulate **clear learning objectives** for your course unit before you start your blended design.

- **Match** your didactic approach, the type of blend, and the learning activities to the learning objectives.

- **Provide sufficient time and space** to practice the newly acquired knowledge and skills with students. (e.g. in a flipped classroom)

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CHOOSE BASED ON YOUR LEARNING OBJECTIVES

- Formulate clear learning objectives for your course unit before you start your blended design.
- Match your didactic approach, and then the type of blend and learning activities to the learning objectives.
- Provide sufficient time and space to practice the newly acquired knowledge and skills with students. A flipped classroom, for example, explicitly provides room for practice sessions.

1

Formulate clear learning objectives

Learning objectives	Learning activities	Blend	Tool
The students know the terminology.			
The students understand the terminology.			
The students can use the terminology correctly.			

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Match your didactic approach

Learning objectives	Learning activities	Blend	Tool
The students know the terminology.	Flashcards		
The students understand the terminology.	Learning path with instructional videos for each term. OR Lecturer instruction		
The students can use the terminology correctly.	Speaking exercise		

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Select the appropriate blend

Learning objectives	Learning activities	Blend	Tool
The students know the terminology.	Flashcards	Online asynchronous	
The students understand the terminology.	Learning path with instructional videos for each term. OR Lecturer instruction	Online synchronous OR FTF synchronous	
The students can use the terminology correctly.	Speaking exercise	Online asynchronous OR FTF synchronous	

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Select the indicated tools

Learning objectives	Learning activities	Blend	Tool
The students know the terminology.	Flashcards	Online asynchronous	Quizlet
The students understand the terminology.	Learning path with instructional videos for each term. OR Lecturer instruction	Online synchronous OR FTF synchronous	iLearn / Canvas / Moodle / LessonUp
The students can use the terminology correctly.	Speaking exercise	Online asynchronous OR FTF synchronous	Flipgrid

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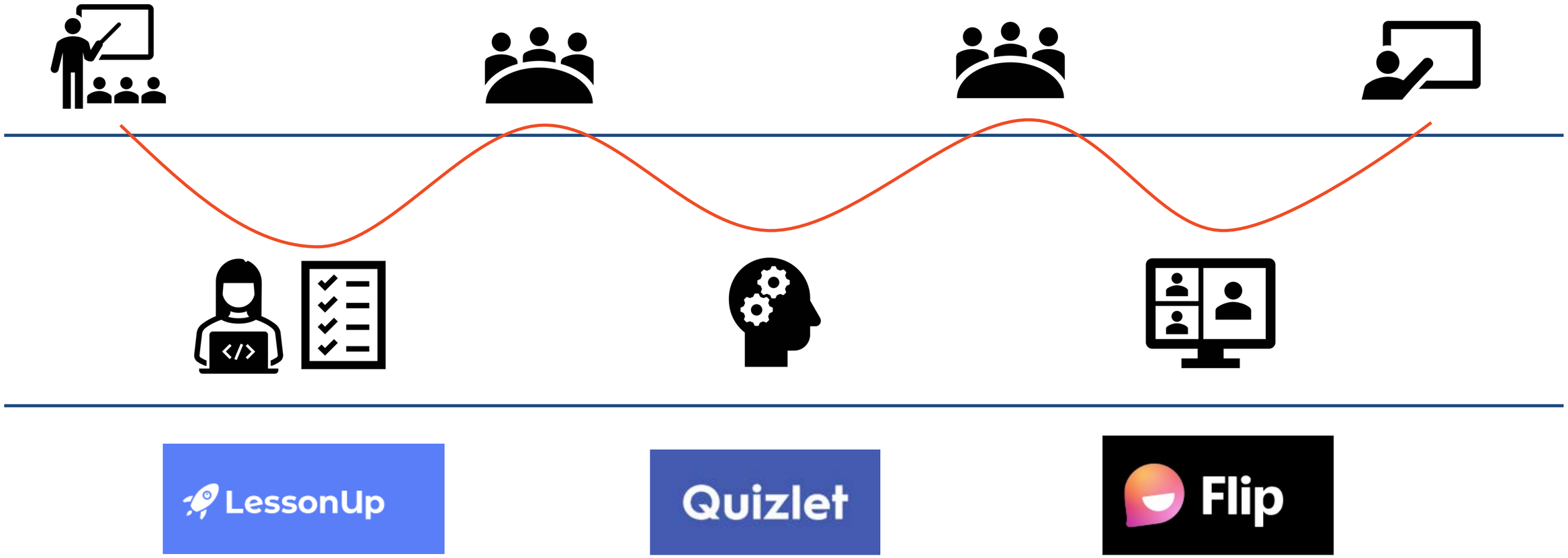
Determine your course sequence



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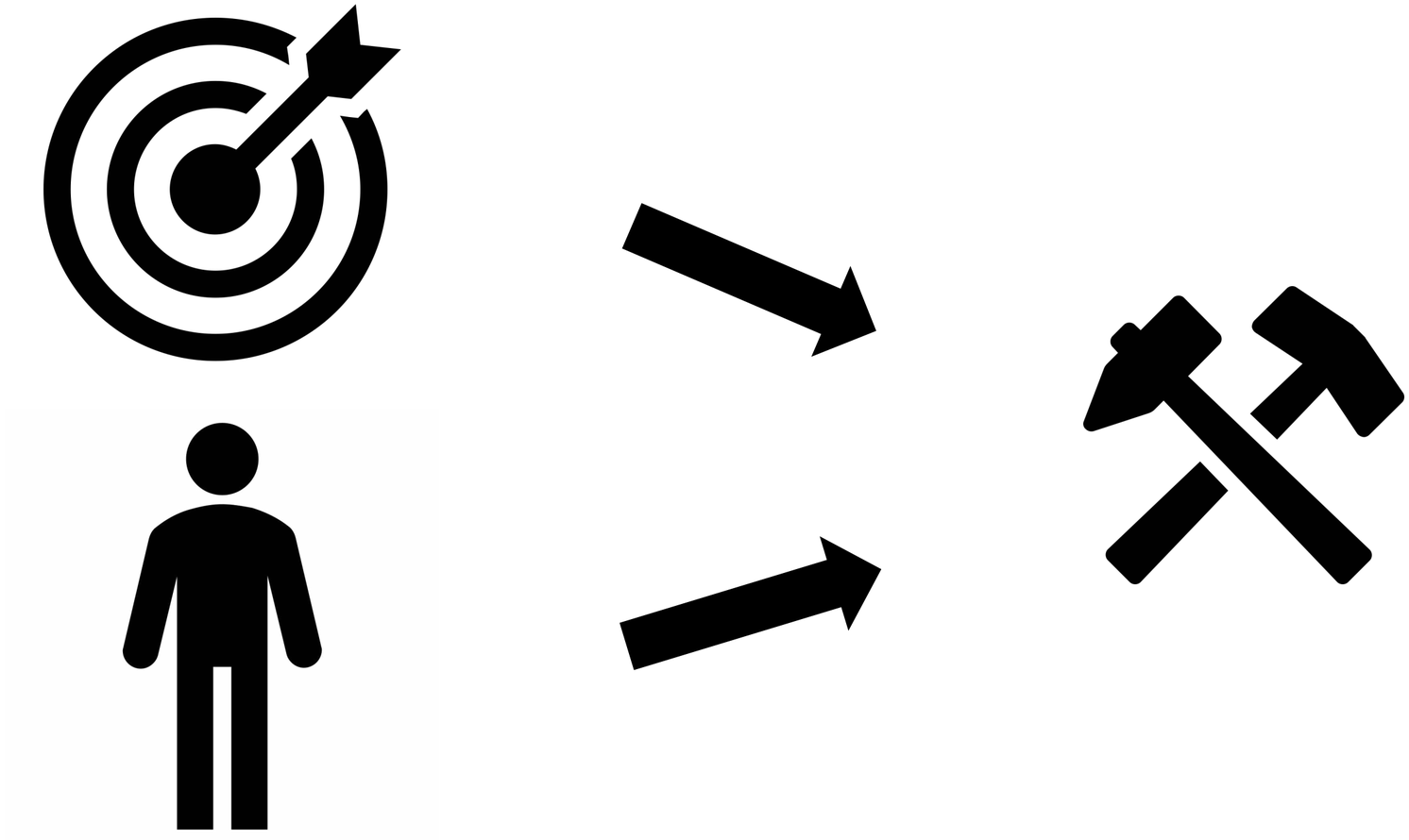
From learning goal to tool (and not the other way around)



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3- Support the organization of the learning process

- Be conscious of the **self-regulatory skills** expected of students in blended formats
- Students **do not automatically develop** these skills on their own
- **Explicitly inform** students on effective learning strategies and **model** their use.
- Steadily **decrease support** as students become more competent

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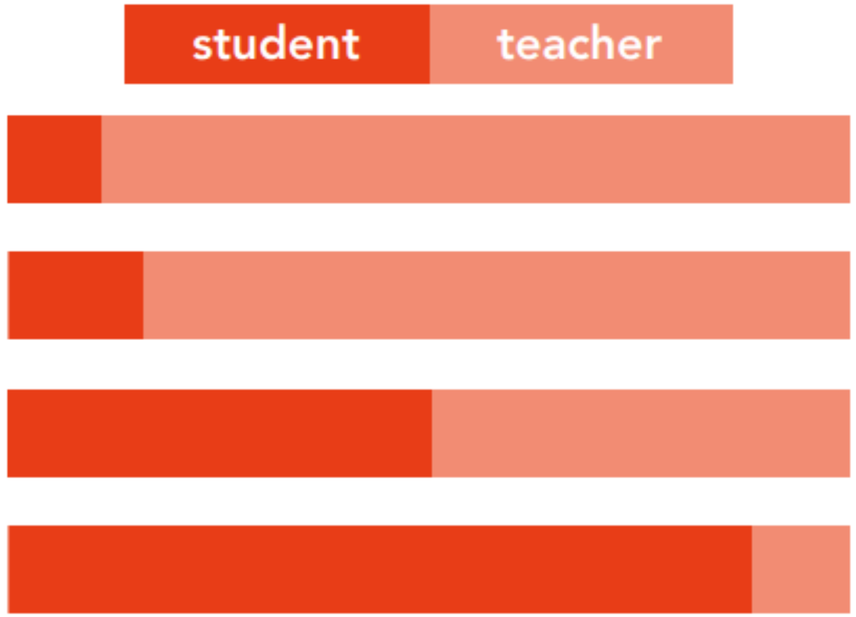
SUPPORT THE ORGANIZATION OF THE LEARNING PROCESS

- Be conscious of the self-regulatory skills expected of students in blended learning formats. They require explicit support to develop these skills.
- Explicitly inform students on effective learning strategies, and model their use.
- Support students in the organization of their learning activities, and steadily decrease that support as they become more competent.

3

Example: metacognitive scaffolding



1. Introduce and discuss effective learning
2. Model effective learning strategies
3. Let students practice and reduce lecturer support
4. Evaluate and set objectives

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Soon also available in English: ‘Studying successfully’

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4- Facilitate interaction

- Facilitate interaction both in the **online and face-to-face** components
- Use work formats that encourage **interaction**, **collaborative learning**, and **peer feedback** (e.g. think pair share, group work)
- Ensure that students are encouraged to **actively cognitively engage** with the learning content
- Use online **forums** or **breakout rooms** and follow up on these

FACILITATE INTERACTION

- Use work formats that encourage interaction, collaborative learning, and peer feedback, such as think-pair-share and group work.
- Ensure that the interaction formats encourage students to actively cognitively engage with the learning content.
- During online sessions you can use forums or breakout rooms, for example. It is important to follow up on these as teachers.

4

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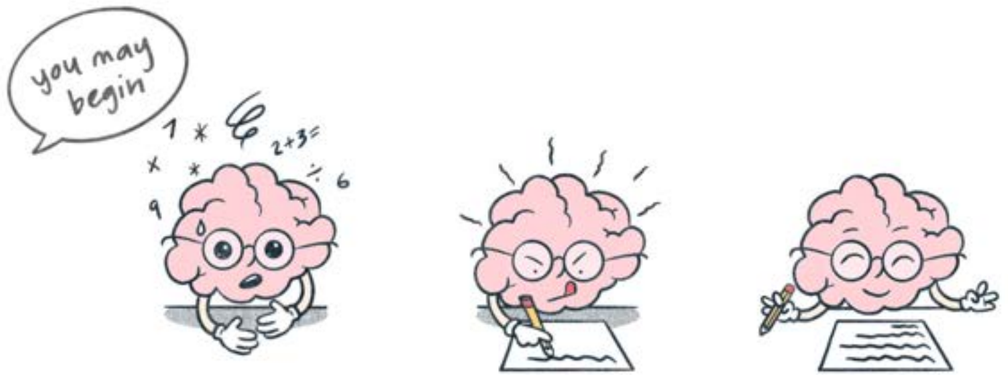
Example

- Individually: **braindump**
- Small groups: **compare** and **complete** their notes
- Full group: **quiz** in which groups compete against each other



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Example

- Online **intervision** using a clear **structure** and **rules**

- Students propose a **case** from their own working practice
  - Explanation
  - Problem definition
  - Advice round by students
  - Additional information and feedback by teacher

- All students benefit from the group's **complementary knowledge**

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Future prospects: ongoing empirical research

What are the effects of **a flipped / hybrid virtual classroom** on **learning outcomes** and **psychosocial outcomes** among students in professional higher education?

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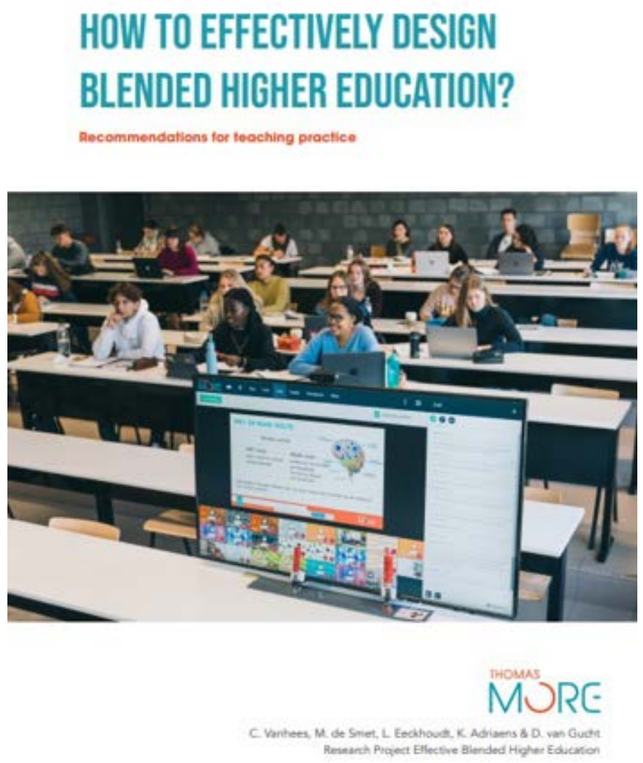
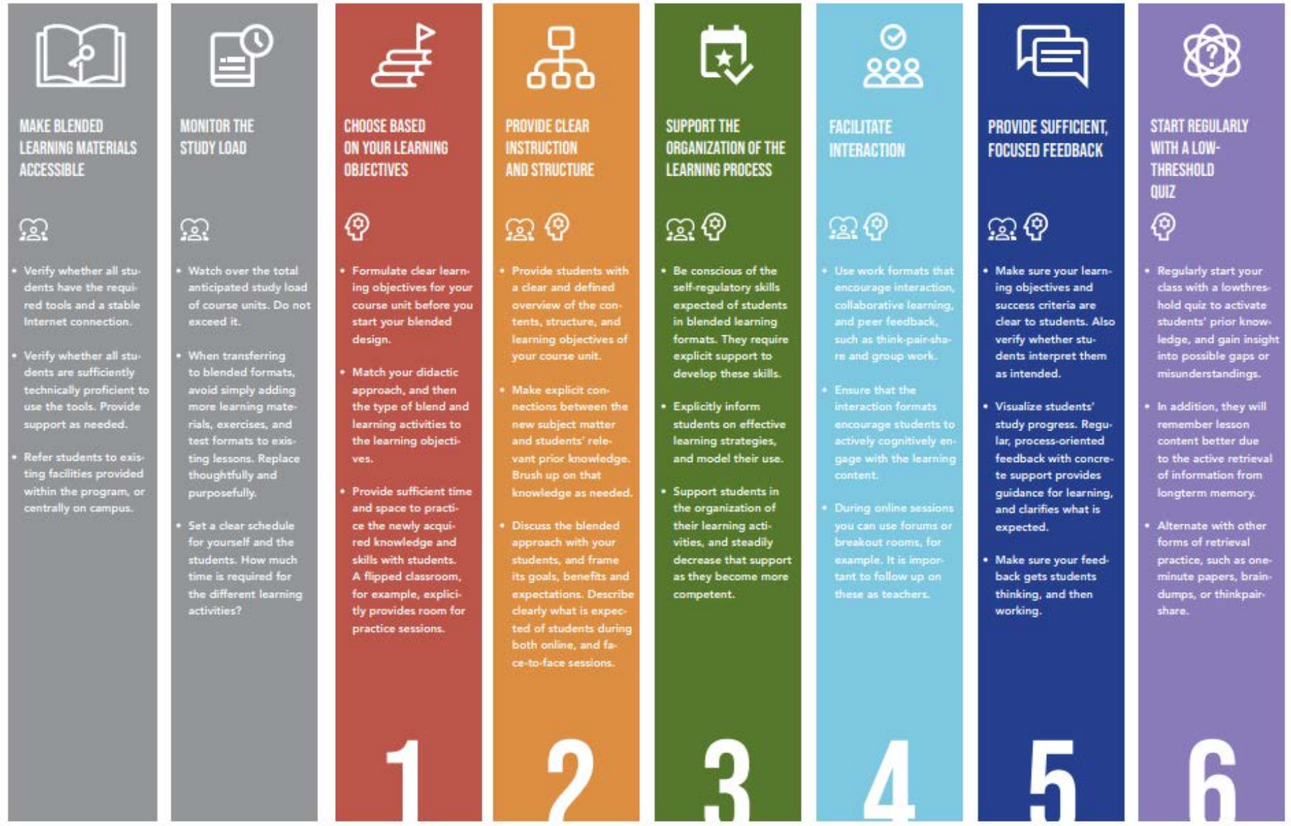
Thank you for your attention

More details?

Download the full guide & poster





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What is the *'ideal'* blend?

Do you have any questions?

Let us know! We hope you learned something new.