Towards a Model of Powerful Learning Environments in Secondary Vocational Education

dra. Inge Placklé,
prof. dr. Arno Libotton,
prof. dr. Nadine Engels,
dra. Gwen Hotton

xios Hogeschool Limburg

Vrije Universiteit Brussel

Background

Study area

- Vocational Secondary Education

- Focus on General Subjects

- Linked with practice

Background

At the end of
Vocational Secondary Education
solve authentic problems
individually and **in group**.

▨▶ **Powerful learning environments** (PLE)
could stimulate these learning processes

PLE are situations and contexts for learning that aim at the development of complex and higher order skills, deep conceptual understanding and metacognitive skills.

Learning is enhanced by a productive use of acquired knowledge and skills and the ability to apply these in new problem situations

(translated from: van Merriënboer en Paas, 2003, de Corte, 1990)

Research question

Which critical **design principles**
can we define, to create

powerful learning environments

in **secondary vocational education**?

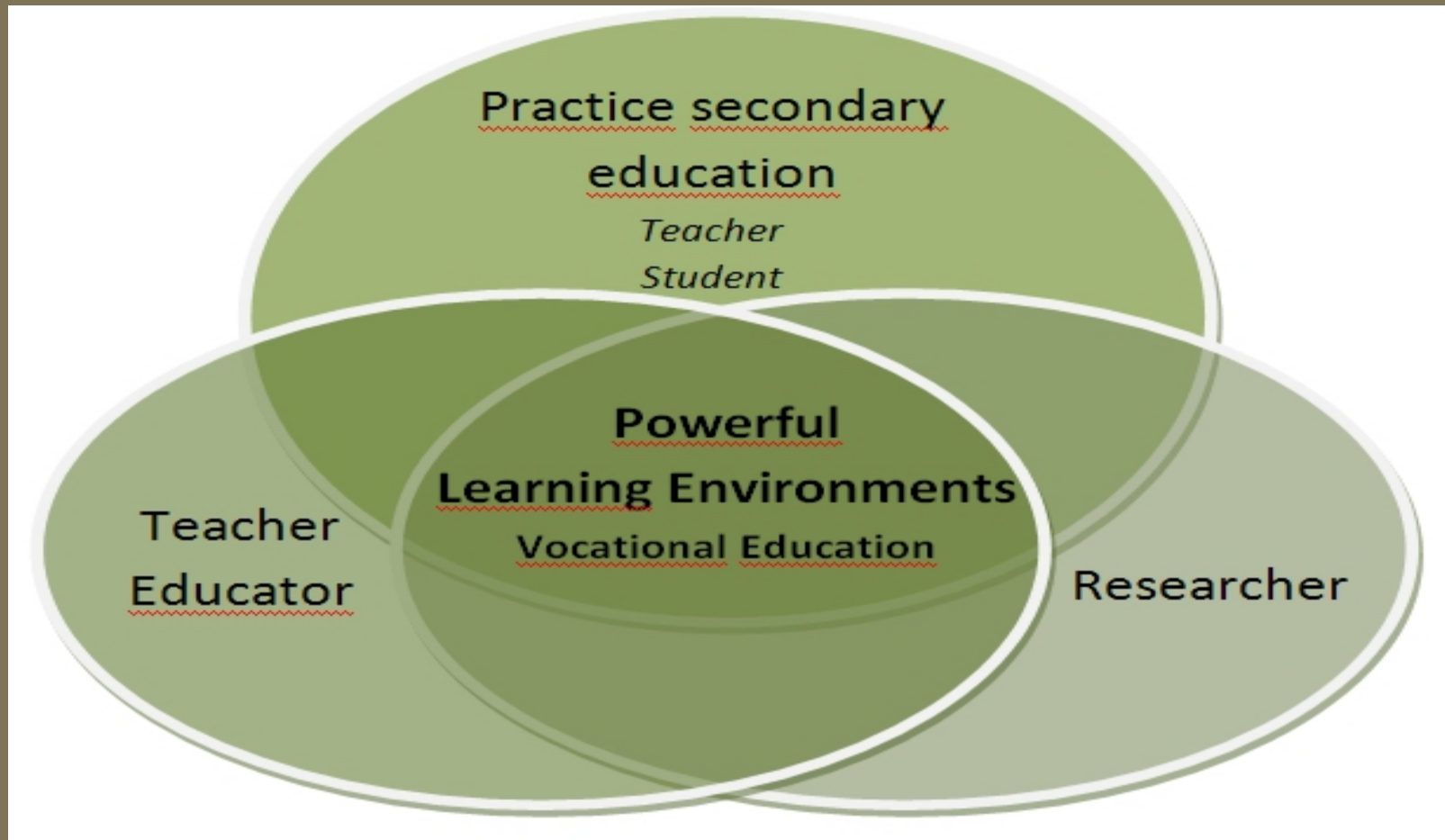# Methods

Literature: design principles

Focus groups: teachers, teacher educators, students

                     clarifying principles

Workshops &
roundtables: additional data

Congruence of perceptions

Data collection focus groups

Who?	Content?	Data?	Number ?	Number of participants?
Teacher educators	- Desirable pedagogy (general)	Audio / Reports	3 focus groups	12
	- Principles PoLEVE	Concept maps	1 workshop	26
Teachers	- Desirable pedagogy (general)	Audio / Reports	2 focus groups	11
	- Principles PoLEVE	Concept maps	1 workshop	11
Students	- Desirable pedagogy (general) - Selection of principles	Audio / Reports	4 focus groups	49

Table 1: Data collection focus groups

Materials

A short written guidance was provided to explain the principles.

An example: design principle
                          "self-regulated learning"

Example
Design principle: Self-regulated learning

Young people in Vocational Secondary Education aren't able to take control of their own learning process!

Context
In accordance with the line of "Life Long Learning" it is important that students learn to take control of their own learning process.
Some see reflection as an important tool to foster self-regulated learning.
If you look at the practice of your students in teacher education, can they foster reflection skills with their students? What works? Which obstacles do you notice?

Preliminary results

10 design principles (see following, random order)

further clarified in indicators

Challenging!

Students are challenged to give the best of themselves!

"… I'm in favour of pushing the limits a little bit and working with challenging learning materials. Especially the thinking makes for a challenge. Please, let the students think for themselves! I would never come up with some of the answers they give."

Authentic

An *authentic* learning environment is desirable, although in practice it is not easy to realise.

"The right approach in authentic learning environments is of major importance. I think you need project or problem based learning, where students are directed by assignments, problems, cases, …and which are solved by them in an authentic way."

For example: it is hard to learn about the asylum seekers' dilemma in a classroom. But you can organize a soccer tournament in the open asylum centre. This we do every year. It is authentic and challenging…"

Shared responsibility

A *shared responsibility* between general subjects teachers and teachers of vocational subjects in designing a learning environment is seen as a way to make the transfer from general subjects to the vocational context easier.

Cooperative learning

The importance of this is agreed upon, but the set up is not systematic yet.

"I focus on learning how to design cooperative learning tasks. There are many partial competences needed to explore those as a whole."

Self-regulated learning

Self-regulated learning is considered an important principle, but seems hard to develop.

Reflection is perceived as a way to foster self-regulated learning, but there is no systematic approach for students in vocational education to reflect on their learning process.

Problem solving skills

Teachers in the focus groups do endorse to the importance of working on problem solving skills, but do not know how to promote those skills.

In a workshop we asked teachers how they tried to improve problem solving competences....

We got an empty sheet back...

Differentiation

Differentiation is perceived as an important tool to cope with differences in the classroom.

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Adapted evaluation

Important design principle!

Yet teachers are not sure on how to adapt their evaluation to meet the individual needs of their students.

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Coaching

Important principle! But how to realize…?

"It is often due to a lack of knowledge. Modelling coaching, can bring teachers to being willing to coach their students, but it is not easy to start. I think it's our task to guide teachers in the coaching process."

(Vocational) identity development
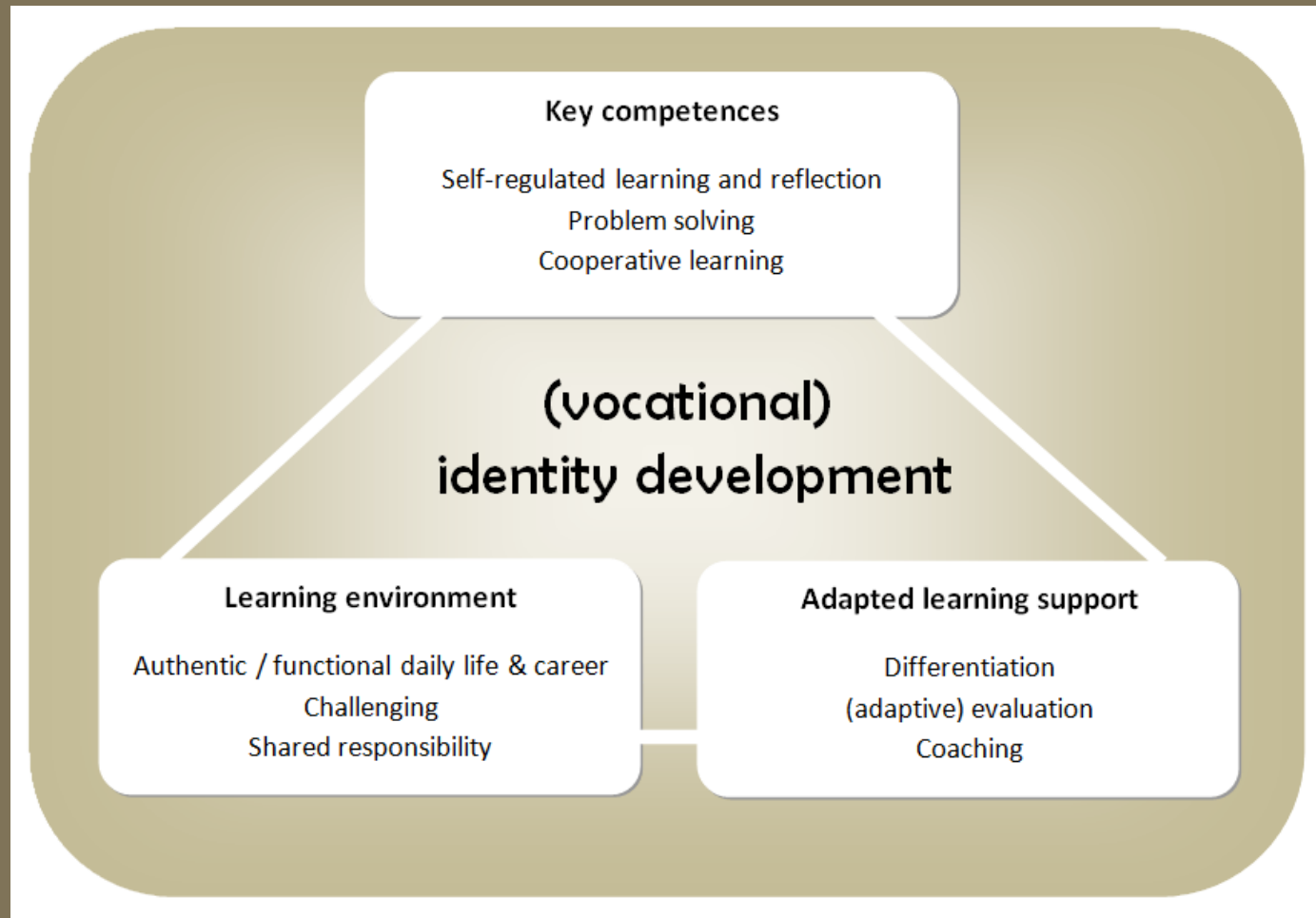
Important principle! But ...

…one that is hardly given conscious attention to at present, both in vocational and teacher education...

Design principles (10) PoLEVE

- Up to a model: how to categorize?

Preliminary PoLEVE model

Key competences

Self-regulated learning and reflection
Problem solving
Cooperative learning

(vocational)
identity development

Learning environment

Authentic / functional daily life & career
Challenging
Shared responsibility

Adapted learning support

Differentiation
(adaptive) evaluation
Coaching

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Looking forward to...

Further **validation** of the model,
with its indicators

Set up a
"**reflective professionalization program for teachers**"
based on their needs to bring the model into practice.

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discussion / questions?

Thank you for your attention !

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