



The six languages in education -looking for postformal thinking-

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- The six languages: learning and teaching conceptions
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A small exercise

- What does understanding mean to you? When have you really understood something?
- What is good teaching?

Keep your answers close

Learning and teaching conceptions

- 30 yrs research; 900+ students; 43 teachers; higher education
- Written essays and email conversations
- What does **learning** mean to you?
- What is **good teaching**?
- Other words studied are: intelligence, applying, understanding, insight, good assessment, study book, excellence etc.
- The Meaning of Learning and Knowing (SensePublishers.com)

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Languages of knowing and memorising

the starting point

LC	MHC	SOLO (<i>highest level</i>)
1	2-5 senso-motory	
2	6-7 preoperational	uni-structural simple multi-structural

Learning-teaching conceptions

1: <i>Increasing knowledge</i>	2: <i>Memorising and selection</i>
<ul style="list-style-type: none"> • synonyms and examples • knowing a lot • only correct and incorrect answers • listening, taking notes and memorising (obedience) • experts know everything/ the truth • understanding = knowing everything, every word and sentence • application = comparing to reality • good teaching = clear, good explanation, clear structure, no interruptions 	<ul style="list-style-type: none"> • main points and details (teacher defines) • knowing a lot (selective memorising) • correct, incorrect and yet unknown answers • listening, memorising, asking some questions, reproduction on a test • experts know a lot = the truth • understanding = knowing main point and details en capable of reproduction on a test • application = reproduction of knowledge at a test • good teaching = clear structure, good explanation, some humor within limits, some questions: what is part of the assessment

Learning-teaching conception2

... Well, it's to learn what's in the books. In principle it means to learn in order to be able to answer the questions which the teacher gives you ... (Säljö, 1979a, p. 14)

I really dislike lectures when there is no opportunity at all for students to say something. I don't always need to say something, but the idea that it is possible is agreeable.

Having a chat or a bit fun occasionally, and for the rest a decent lecture, consequently not too many disruptions.

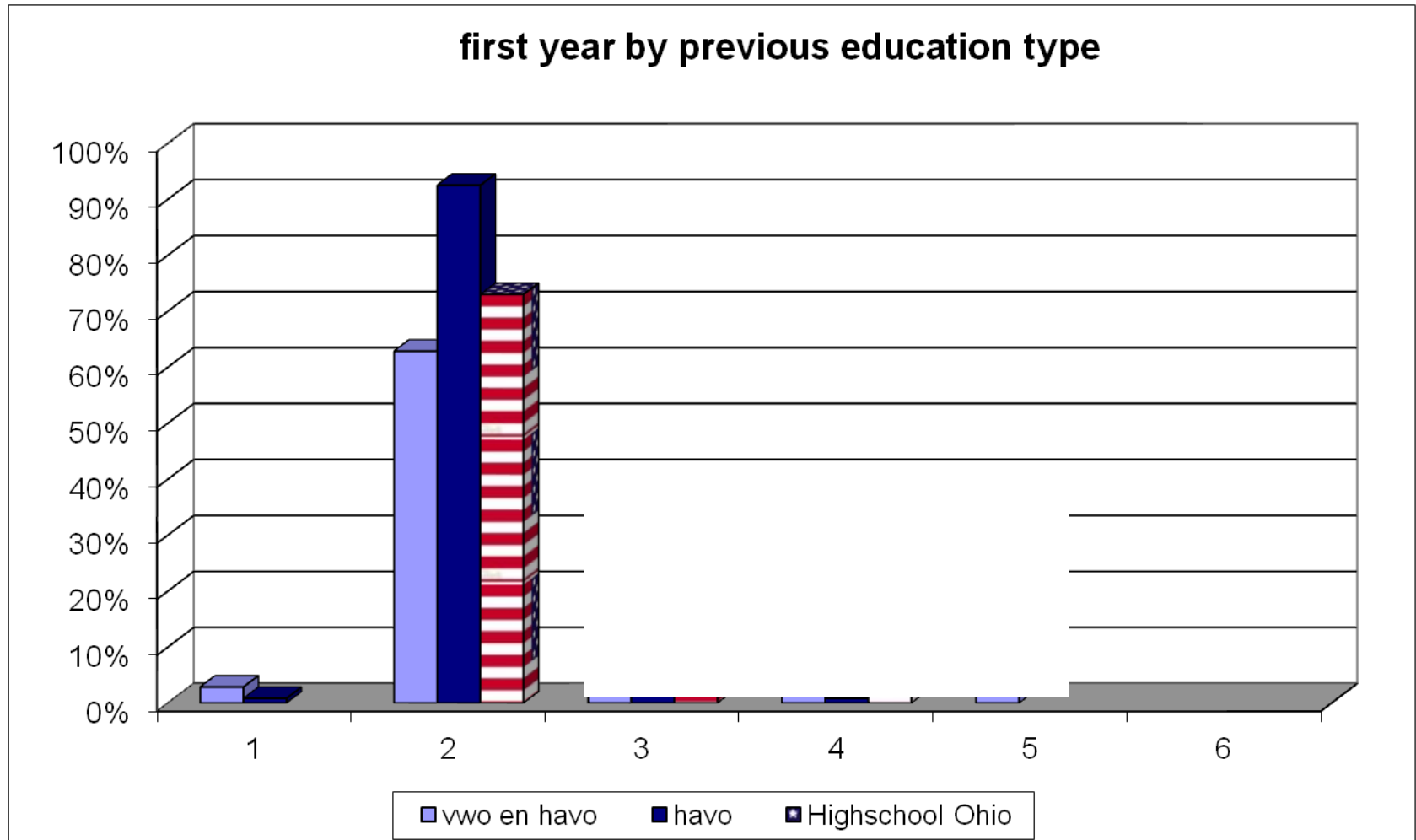
I have understood a text when I literally understand what is said and when I can apply this in an exam. For me to understand a "text" and to apply it is

If I could do the exercises then I knew I mastered the subject matter. |

g. When I was a secondary school teacher, I think that I saw myself as a passer on of information. I hope that my lessons were humorous and I hoped that the children liked me and therefore were prepared to work for me because of this. I also worked hard – My results were good (in exams) and I had a good relationship with the students. That was then.

Namely, you had learnt something sufficiently if you could reproduce the desired answers on tests, leading to a pass.

First year students HE



Languages of skills and expertise

the great divide

quantity -> quality

knowledge reproduction -> knowledge construction

LC	MHC	SOLO (<i>highest level</i>)
3	7-8 primary/concrete	Multi-structural
4	9-11 abstract/formal/systemic	Relational

Learning-teaching conceptions

3: <i>Reproductive application (later)</i>	4: <i>Learning to think</i>
<ul style="list-style-type: none">• what proves important later• solving known (structured) problems• answers are facts or opinions; opinions are personal• Listening, memorizing, application and discussion (i.e. exchanging opinions)• experts do not know more than you• understanding = applying• applying = using known rules and knowledge in an algorithmic way• Good teaching = practice, cases, practical, interaction and exchanging opinions	<ul style="list-style-type: none">• adopting a way of thinking and working• solving ill-structured problems• answers need to be evidence based• thinking for yourself, supporting opinions, analysis and using criteria• you become the expert• understanding = making connections• applying = using a way of thinking, applying flexible/heuristic• Good teaching = challenging to think for yourself, develop understanding, mentoring/coaching not steering

Learning-teaching conception 3

[An ideal teacher is] a teacher who uses a lot of examples from practice and connects these to the literature, and he/she should invite discussions during the lecture so that sufficient interaction takes place. In addition, I feel it is important that a teacher motivates students for his subject using his enthusiasm; I feel humour is very important in lectures. Furthermore it is important that a teacher gives feedback to his students in a positive way. This means not only emphasising the negative, but also evoking the best in his students.

Very roughly you can say the “being able to apply what is learned” means that you must be able to solve a given problem, either at an exam, either from practice or otherwise, [using] the knowledge provided. This can be more

Learning-teaching conception 4

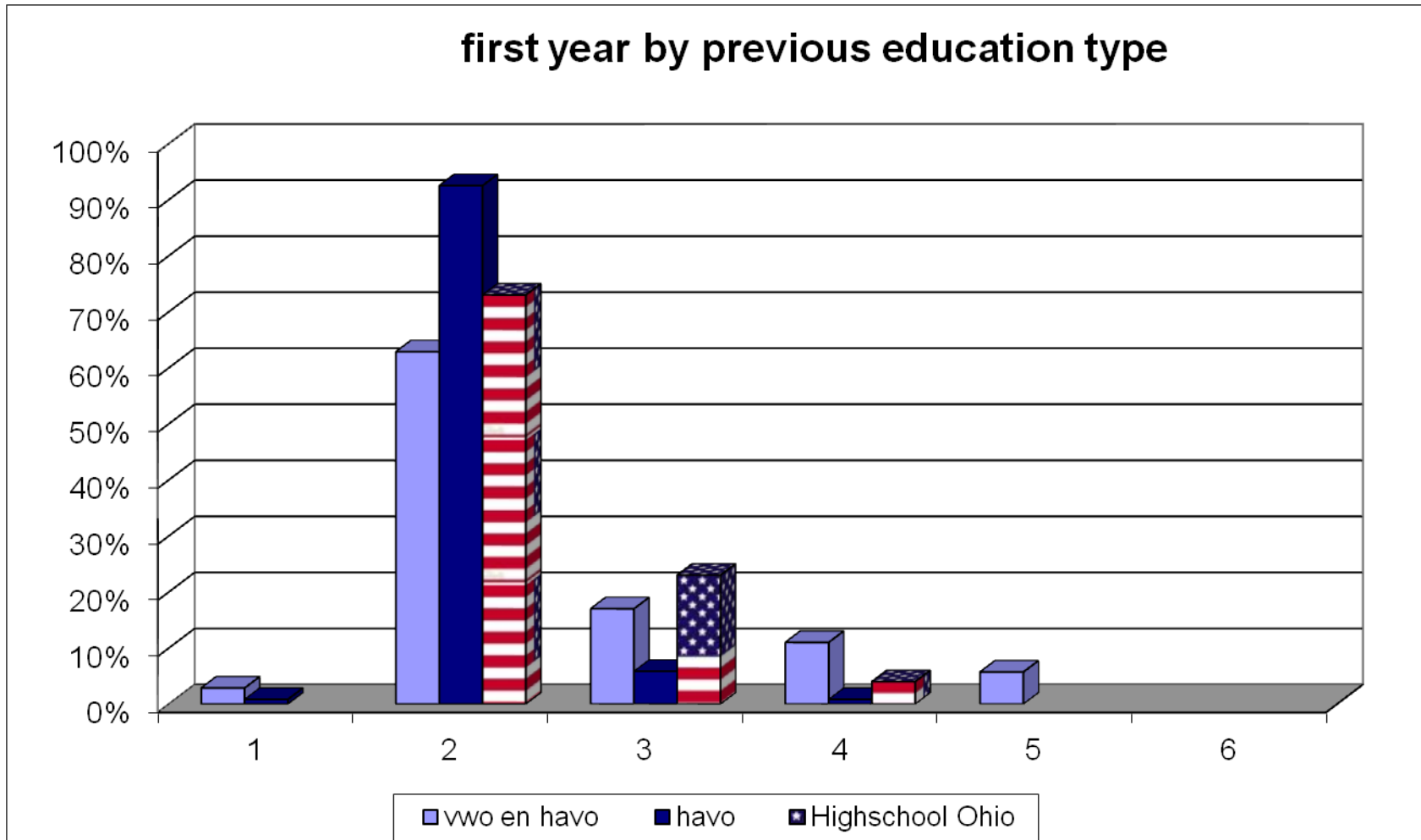
Yes, to learn ... well it is not just a matter of learning facts. It is also to understand, to see contexts and to be able to use knowledge to draw conclusions, to think independently... I think I learned that at school... well perhaps everyone doesn't learn that, but I think I have... (Säljö, 1979a, p. 17)

The ideal teacher would be someone who consciously challenges me to think to achieve a goal (a grade). The teacher should then just let me go and not steer me too much. In this way I can find out for myself whether something is or is not possible or true. Assessment should then need to focus on the process and not so much on the end result. An ideal teacher should also have an hour or two a week to interact with students in a different way. Informal conversations in a bar for instance, would be a stimulus for both student and teacher because of the informal nature. The aim of teaching is not such much the knowledge accumulated, but [that it] improves and broadens the way of thinking.

other aspects of learning also come into play, namely the extent of the learning outcome, the joy that was experienced during learning, and the measure in which that what is learned is applicable in other situations. These aspects reflect the quality of learning. ...

Furthermore, it is important that teaching encourages you to think further. That you are stimulated to make connections and that it challenges you.

First year students HE



Languages of excellence

focus shifts from knowing to being

how do you think -> who you are
(epistemology -> ontology)

LC	MHC	SOLO (<i>highest level</i>)
5	12-15 <i>postformal/ metasystematic</i>	Extended abstract
6	<i>no matching levels</i>	

Learning-teaching conceptions

<i>5: Multiple perspectives</i>	<i>6: Identity</i>
<ul style="list-style-type: none"> • seeing things from different perspectives • personal development • answers depend on perspective/ context/ culture: relativism • dialogue and changing perspectives • experts all see things differently • understanding = formulating your own argumentation • application = approaching questions from different perspectives/disciplines • Good teaching = dialogue and travelling together 	<ul style="list-style-type: none"> • searching for wisdom • finding out who you feel you are • choices manifest who you are (ambition, partner and work choices; often socially unconventional) • authenticity and respect • cognition and affect • understanding begrijpen = deeper knowing and ownership • application = putting knowledge and systems to use for the greater good • Good teaching = if teacher is an authentic person, teaching techniques are irrelevant

Learning-teaching conception 5

Good teaching explicitly shows its own limitations. [This happens when] one first discusses the assumptions, implicit truths and methods [all] underpinning the discipline and one places the subject matter in a context. The context can be historical, societal, religious, etcetera. Then it makes more sense. ... Furthermore I prefer studying in a group as small as possible, because often lots of questions are raised and to answer them seriously the teacher needs to tell the other side of the story as well...

Learning is broadening your perspective and becoming better in supporting your answers with arguments based on the knowledge you have. What I want to achieve with learning is acquiring sufficient knowledge to be able to argue my view points well, this means with (factual) knowledge. Something important I learned is being able to think logically ... (Marius, level-five-thinker)

Through learning you begin to see things from different perspectives, from different points of view. That is what I mean with broadening your perspective!

The most flexible type of learning [to me is] using knowledge to develop new insights. To think of new areas of application, to adapt knowledge to new situations, to adapt theory, and the awareness that theory knows no absolute truth, and that learning is a form of renewal of the way one sees the world

Leer- en onderwijsconceptie 6

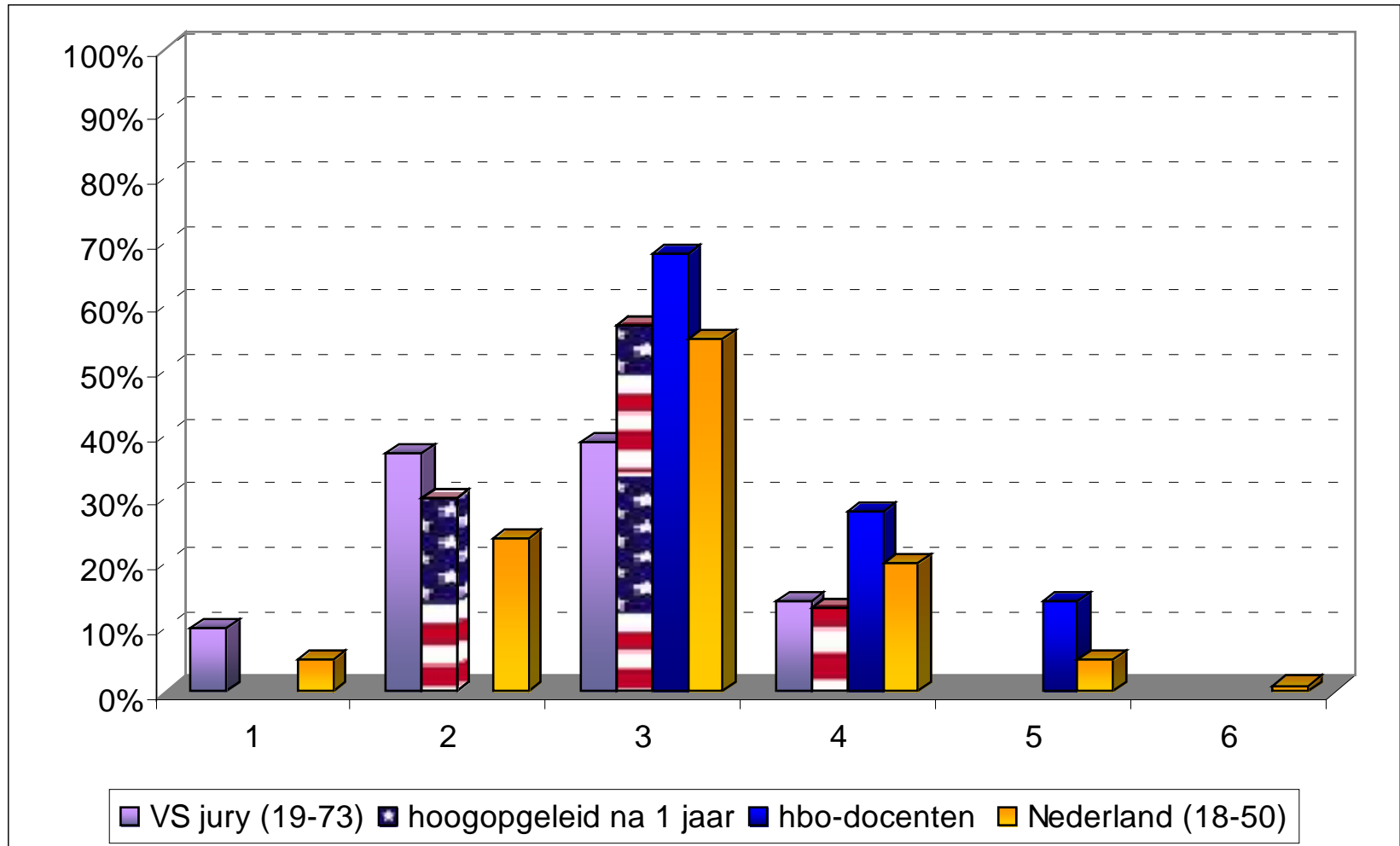
... expanding yourself. It is being more alive, more aware, feeling more in control. You tend to think that life just took hold of you and did what it wanted with you and I think that you come to realise that now you should take hold of life and make it go your way because you know it is possible. (p. 160)

Good teaching develops in a situation of total understanding between student and teacher. (...) To me [the] teaching method is no longer important. As long as I can see that the man/woman in front of the group is really interested in the subject and in the people before him/her, it doesn't really matter how the subject is communicated. If he/she clearly is not interested in me or the things I want to learn, then I will not open myself up to communication of knowledge.

Intelligence is 'something' that is difficult to describe, but that, I feel, can express itself in a variety of ways such as (...) creativity. ... With creativity I mean playing with the knowledge you have and creating new or adapted theories, so not parroting what other people say, but adapting what you do to your own norms and rules. (S26, p. 29)⁸

Estimate of languages as used by
general public?

Languages in adults



Van Rossum-Hamer		Baxter Magolda 1992, 2001	Perry 1970, 1981, 1988	Kuhn 1991, 2000, 2005	Kegan 1982, 1994	
Learning Conception	Teaching Conception	ERM	Pilgrim's Progress	Epistemological Theories	Orders of Conscious-ness	
1	Increasing knowledge	Imparting clear/well structured knowledge	Absolute Knowing	Basic Dualism (position 1)	Realist	First order
2	Memorising	Transmitting structured knowledge (acknowledging receiver)		Dualism (position 2,3)	Absolutist	Second order
3	Reproductive understanding/ application or Application foreseen	Interacting and Shaping	Transitional Knowing	Multiplicity (position 4a)	Multiplist	Third order Traditionalism
4	Understanding subject matter	Challenging to think for yourself / developing a way of thinking	Independent Knowing	The way they want you to think (position 4b)	Objective Evaluativist	Fourth order Modernism <i>Self-authorship</i>
5	Widening horizons	Dialogue teaching	Self-authored knowing	Relativism (position 5)	Conceptual Evaluativist	Fifth order Postmodernism <i>Self-transforming</i>
6	Growing self awareness	Mutual trust and authentic relationships: Caring	Internal Foundation	Commitment (position 6 and beyond)		Reconstructive Post-modernism <i>(Self-defining)</i>

Drivers of development?

- Privilege (*time to think*)
- Demands (*society*)
- Opportunity
 - Curricular
 - Extra curricular
- Motivation/willingness to grab opportunity
- Personal crisis

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HE teachers' LCTC

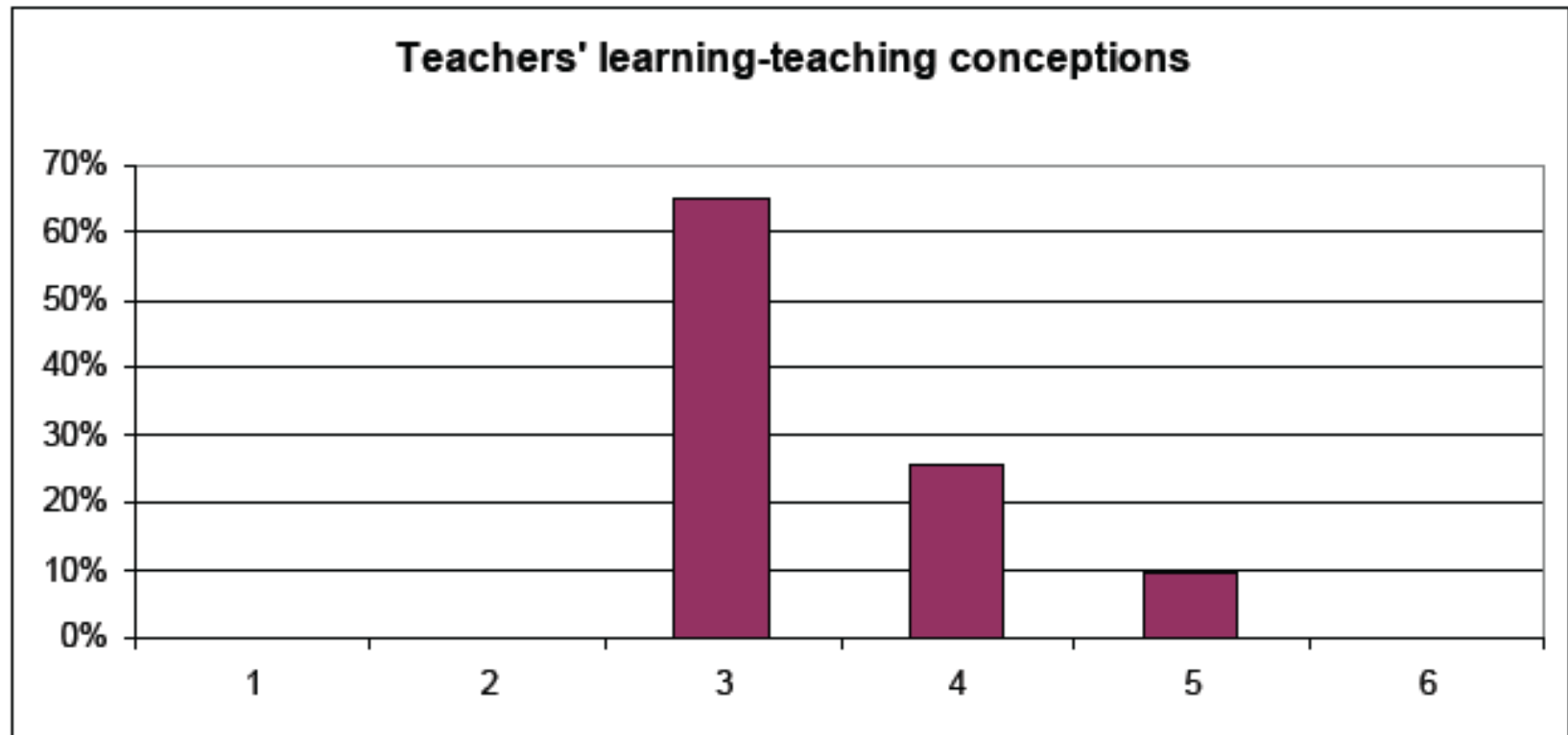


Figure 9.1. Teacher thinking at the Hotelschool The Hague during the study.

Teachers and teaching activities

Table 5.2. Teachers' time allocation per type of instructional activity

<i>Instructional activity</i>	<i>Teacher</i>			
	<i>Andy (%)</i>	<i>Betty (%)</i>	<i>Cindy (%)</i>	<i>David (%)</i>
One-Way (teacher-directed) lecture	38	35	31	15
Tutorial problem practice	25	22	14	10
In-class exams	24	5	8	9
<i>Subtotal 'traditional' practices</i>	<i>87</i>	<i>62</i>	<i>53</i>	<i>34</i>
Lab or small-group inquiry activity	0	17	30	26
Interactive discussion and questioning	2	5	6	26
<i>Subtotal 'constructivist' practices</i>	<i>2</i>	<i>22</i>	<i>36</i>	<i>52</i>
Other	11	16	11	14

Source: Tsai, 2007, Table 3

Miscommunication: a bridge too far?

... As far as I am concerned that if you do not practice you cannot learn. The way to learning is doing ... being busy ... we need more applications, problem solving in practice

... Well, that's learning what is in the books. You have really learned something well if you can answer the questions on a test and you pass.



More than one bridge too far?

Yes, learning.... well it is not only learning facts. It is also understanding, seeing contexts and using knowledge to draw conclusions, to think independently....

... Well, that's learning what is in the books. You have really learned something well if you can answer the questions on a test and you pass.



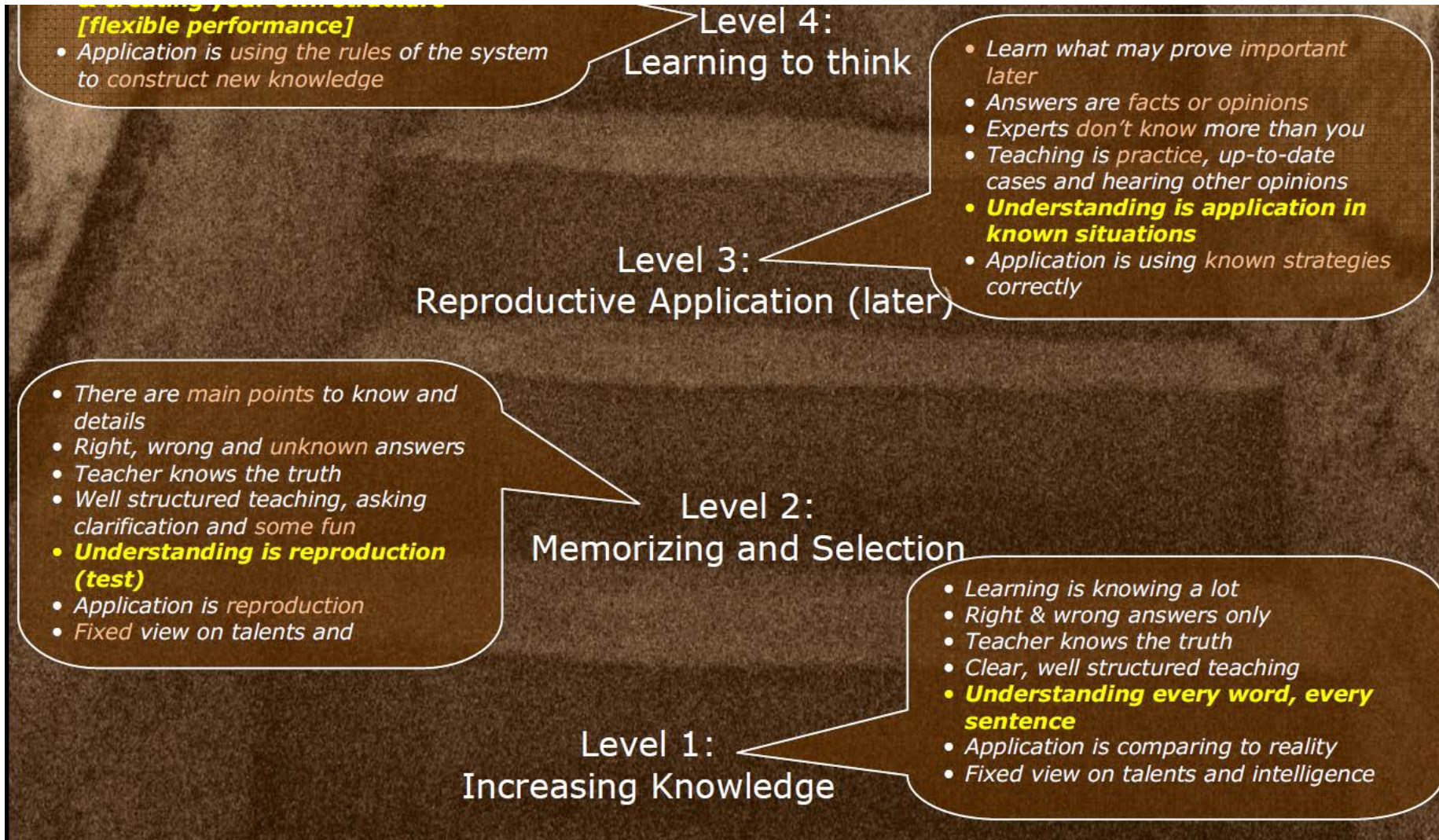
Conclusions

- Many teachers are unaware of how pupils think about learning and knowing
- How teachers think often defines how they teach or want to teach
- There is NO teacher proof constructivist teaching material; only constructivist teachers
- Deep subject expertise is essential for constructivist teaching
- It's not about independent learning; learners need a role model, a mentor. ***Mentored learning***
- Teacher can educate/lead pupils to their own epistemological level but not beyond

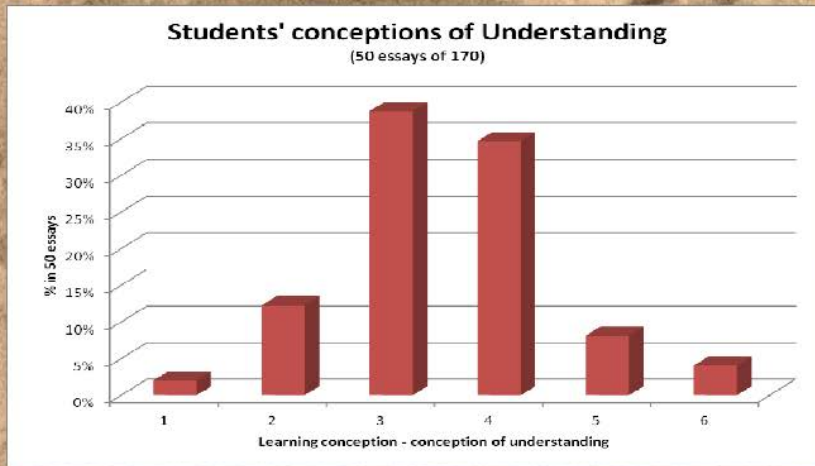
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Conceptions of understanding (1)



Conceptions of understanding (2)



- Seeing things from different perspectives
- Answers depend on the perspective
- Personal growth
- Teaching is dialogue and travelling together
- **Understanding is formulating arguments from different perspectives**
- Application is looking from different perspectives
- Intelligence is problem posing

Level 6:
Defining identity

- Learning is gaining wisdom
- Answers lead to growing self awareness
- Coming home to who I am
- Authentic relationships and care
- **Understanding is deeper knowing that becomes part of yourself, a temporary relief from uncertainty, getting closer to self**
- Application is using knowledge for society (citizenship and responsibility)
- Creativity and intelligence are fluid

Level 5:
Multiple perspectives

- How to think like a professional or expert
- Answers are evidence based opinions
- You become the expert
- Teaching is learning to think for yourself
- **Understanding is making connections & creating your own structure [flexible performance]**
- Application is using the rules of the system to construct new knowledge

Level 4:
Learning to think

- Learn what may prove important later
- Answers are facts or opinions

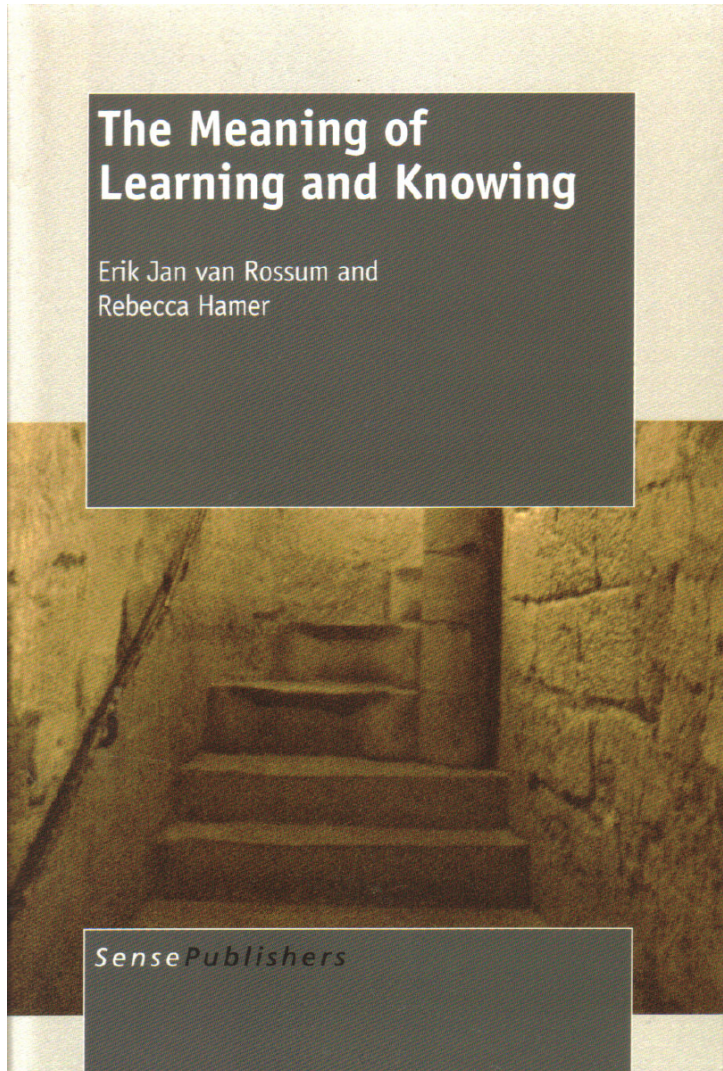
What is understanding?

- a more complex view -

I'm engaged in the development of a personal philosophy that goes beyond surface level understanding. For me, I'm gaining knowledge in a way I never have before; by not thinking. It's completely an alien way of me understanding a way of life. In college I believed you had to analyze it [level 4]. I believe there is a truer way to understand than through analysis. Forms of meditation. Turning your mind off. Then gaining an understanding of who you are and what this is around you, the world, without mental effort. I could read a text at college or law school, and could say this is a feminist critique of this text, then whip on the other pair of glasses. I found conservative lenses in law school. I could figure out what various kinds of people would think [level 5]. With Taoist philosophy, I've gotten closer to understanding what my own pair of eyes internally and externally are seeing. It is more fundamentally true to my human nature than political critiques. Getting toward more important questions than what is a critique of this movie—getting to what it means to be a human being with a soul [level 6].

(Mark in Baxter Magolda, 2001, p. 65) .

More?



The Meaning of Learning and Knowing

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Sense Publishers
(approx. 50 US\$/45 Euro)

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