



Overview about who we are and what we are doing

The Centre for Educational Assessment (CEA) at the University of Helsinki.

The CEA was established in 1996 to define and develop an instrument for measuring learning to learn as the key transversal skills vital for lifelong learning (initiative from National Board of Education (FNBE))

We are assessing effects of "thinking curriculum"



CEA is a part of University of Helsinki, **Departm**ent of Teacher Education.

We are financed by commissioned (often applied) time-limited projects from Ministry of Education Culture, National Board of Education, Prime minister's office, Academy of Finland, other research groups and municipalities (and EU and OECD)

Staff members: 12 – 15

We are specialized in

- Learning to Learn (L2L) assessments - Involved in PISA (2006, 2015*sub*, 2018*sub*)
- Computer based Assessment (CBA)
- → General Problem Solving (Luxemburg, Hungary)
- \rightarrow Time-on-task in depth evaluations
- Advanced statistical methods
 → Longitudinal designs
- → Added value of school, class (teacher)
 for learning
- Well-designed and tested report forms for communicating the results (Finland,

IN VILOPISTIC Zech, Japan, Russia, Hungary, ...)

Furthermore (part 1):

- We have conducted system evaluations (Finnish special education reform)
 We tailor and develop our assessment services in request (e.g. Developing Adaptive Testing Tool, FNBE)
 We arrange further education (e.g. Nationwide "Assessment as a precondition for learning" related to new core curricula", 2015-2016)
 We provide consultation in assessment
- We attend to scientific conferences and publish scientific papers

26.1.2017

Furthermore (part 2):

We have several longitudinal research projects:

- Redefining Adolescent Learning: A multi-level longitudinal cohort study of adolescent (N = 10 000) learning, health, and well-being in educational transitions in Finland. From 7th grade (2011) to the end of upper-secondary school (2019)

- Tablets in Vantaa educational system -research (preschool, 1st, 4th and 7th graders, academic and vocational upper secondary – and teachers, follow-ups for 1-2 years)

- Helsinki and Vantaa longitudinal studies (from the beginning till the end of Finnish nine-graded comprehensive school)

Furthermore (part 3):

Our doctoral students are conducting research on

→ Effect of class size and class composition for developing learning to learn skills among students with educational support needs (Ninja Hienonen)

→ Grade (in)comparability and multidimensionality in the Finnish matriculation examination (Jukka Marjanen)

→ Educational reforms and changing statistics in special education (Meri Lintuvuori)

Changes in school policies and educational















Contents		How	to .
The methodological foundations of educational		26.01.17	Thu
knowledge and the principles related to the		30.01.17	Mon
nature, meaning and construction of knowledge.		02.02.17	Thu
		06.02.17	Mon
		09.02.17	Thu
Production		10.02.17	Fri
The study unit is assessed on the basis of an exam or other		13.02.17	Mon
written assignment based on the lectures and literature on the scale $0-5$.		17.02.17	Fri
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How to get there?						
26.01.17	Thu 12.15-13.45	Orientation, Historical line, Risto				
30.01.17	Mon 12.15-13.45	Scientific thinking, Risto				
02.02.17	Thu 14.15-15.45	Public science, prof. Hannu Salmi				
06.02.17	Mon 12.15-13.45	ER1: Class size, Ninja Hienonen				
09.02.17	Thu 14.15-15.45	ER2: Social integration, Pia-Mari Niemi				
10.02.17	Fri 14.00-16.00	Heureka visit, 30min, Risto				
13.02.17	Mon 12.15-13.45	ER3: Classroom intervention, Risto				
17.02.17	Fri 10.15-11.45	(Examination → group essay)				
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Write group essay (2-4 people): about 5-7pages					
This course has helped me by giving me the knowledge about:					
1) historical structure of education, foundations of philosophy of science of education societal meaning of education					
2) how to identify everyday and scientific thinking and understand the construction of scientific knowledge					
 understand different educational goals and the educational emphases behind them as well as educational research and its core concepts 					
Reflect how these aspects are assossiciated with teacher's practical theory and practice					
Task is due to 28.2. send by e-mail to Risto (risto.hotulainen@helsinki.fi)					
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RESEARCH BASED TEACHER EDUCATION

- Teacher education is considered as higher education
- Teaching and learning is based on research
- Teacher educators conduct research
- Teacher students learn research skills as well as conduct research projects while integrating theory and practice in their learning.

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How to calcuate IQ -test Example kindergarten: In the test situation of each child authorized to perform the given tasks Each task corresponds to 1,5 months "If 3 ½-year-old is able to perform all the tasks required to reach his or her age level and in addition he/she will perform the tasks of drawing the square and the construction of the tower (the next two tasks), add another 2 x 1.5 months (= in all 3 months) developmental age is thus formed 3 years 9 months (in all 3 x 12 + 9 = 45). $IQ = \frac{1}{chronological age} \frac{36}{36}$

Legacy of Luis Terman (Genetic studies of Genious) The children included in his studies were colloquially referred to as

"Termites". The gifted children thrived both socially and academically. In relationships, they were less likely to divorce.

Additionally, those in the gifted group were generally successful in their careers: Many received awards recognizing their achievements. Though many of the children reached exceptional heights in adulthood, not all did.

He naively assumed that his high IQ kids (nearly all white) would become the future leaders of science, industry, and politics.

His son Fredrick greatly expanded the science, statistics and engineering departments that helped catapuls Stanford into the ranks of the world's first class educational institutions; as,well as spuring the growth of Silicon Valley.

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Mar	land report (1972)
	validation point of advantion
7 50	cletal meaning of education
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1	education programs. The definition established by the reads:
	Gifted and talented children are those identified by pro-
	persons who by virtue of outstanding abilities, are capable o These are children who require differentiated educational pro-
	ices beyond those normally provided by the regular school 1
	Children capable of high performance include those with de
	ment and/or potential ability in any of the following areas, s
	1. general intellectual ability
	2. specific academic aptitude 3. creative or productive thinking
	4. leadership ability
	5. visual and performing arts 6. psychomotor ability
	It can be assumed that utilization of these criteria for identi
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TY OF HELSINKI	Käyttäytymis-lieteellinen tiedekunta / Jari lavonen http://www.helsinki.fi/ok/ 28.1.2017 :



Lahjakkuusmalli by Sternberg (Wisdom, intelligence, creativity, synthesized) = WICS

Creativity = producing new ideas

Analytical thinking = to know and understand, to evaluate quality of ideas and their usefulness

Practical intelligence = apply ideas and convince others

Wisdom ensures that decisions and execution produce common good

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	How to measure		
	verbal	quantitative	figural
analytical	Learning concepts	Number series	matrix
creativity	Funny analogies / metaforas	New counting rules	Relationships between figures
practical	Solution of social situations	Algorithms (IKEA), recipes	Map reading / walking (pokemon)



Conclusion

→The study of intelligence is no longer interested in the final result but a process.
→Success in intelligence tests correlates school performance (cf. underachievement.)

→However, there is no clear evidence between IQ and success outside of school

Intelligence can be broadly thought to represent the quality of thinking, which is valued in the environment (cf.. Gardner)

People adapt to their environment by means of their own experiences →direct operations in their own information, relaying on their capabilities and strengths →challenging learning situations that contribute to the adaptation →gradually this lead appreciation of the exceptional know-how

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