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**A contribution to the workshop:
Apprenticeship: Governance modes and
financing approaches**

20-21 May 2013
CEDEFOP – Thessaloniki

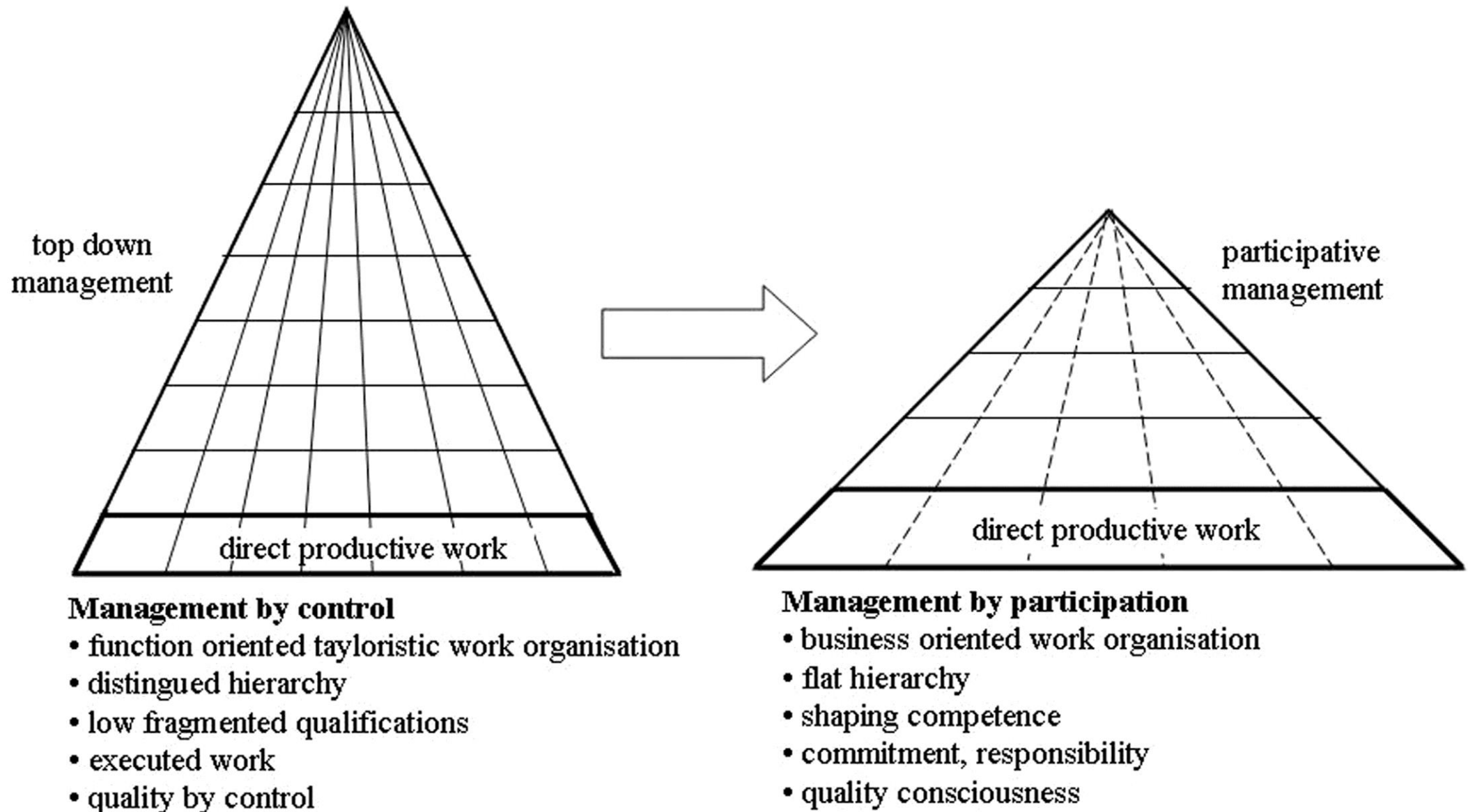
	Low potential work-based training	Innovative Apprenticeship
1. Occupations	fragmented, specialized, company oriented, Taylorist (up to some thousands)	open dynamic (European) core occupations (between 250 and 300)
2. Duration	2 years and less	3 to 4 years including the option: occupational baccalaureate)
3. Competence	fragmented, modularized, know that-based	occupational shaping competence: reflected holistic problem solving (reflected professionals)
4. Knowledge	narrow know that-knowledge	work process knowledge: as a holistic and shaping oriented knowledge

	Low potential work-based training	Innovative Apprenticeship
5. Work Experience	unreflected work experience (learning by doing): rigid and constrained work attitude and behaviour	reflected and systematised work experience
6. Duality of Learning	separate learning venues: training approach	integrated and co-operative learning venues: enabling for (co)shaping the world of work and society in social, economic and ecological responsibility
7. Apprenticeship as part of a dual track VET system	isolated training approach	Apprenticeship as a first step in a dual education and training track up to dual master programmes (professional) level

Modern occupations/professions are fundamental for:

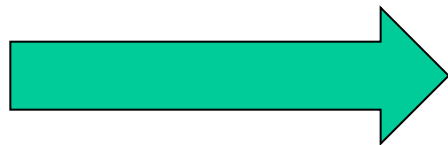
- 1. The development of vocational identity**
- 2. A productive and competitive work organisation with flat hierarchies**
- 3. (...)**

Moving from management by control towards participative management



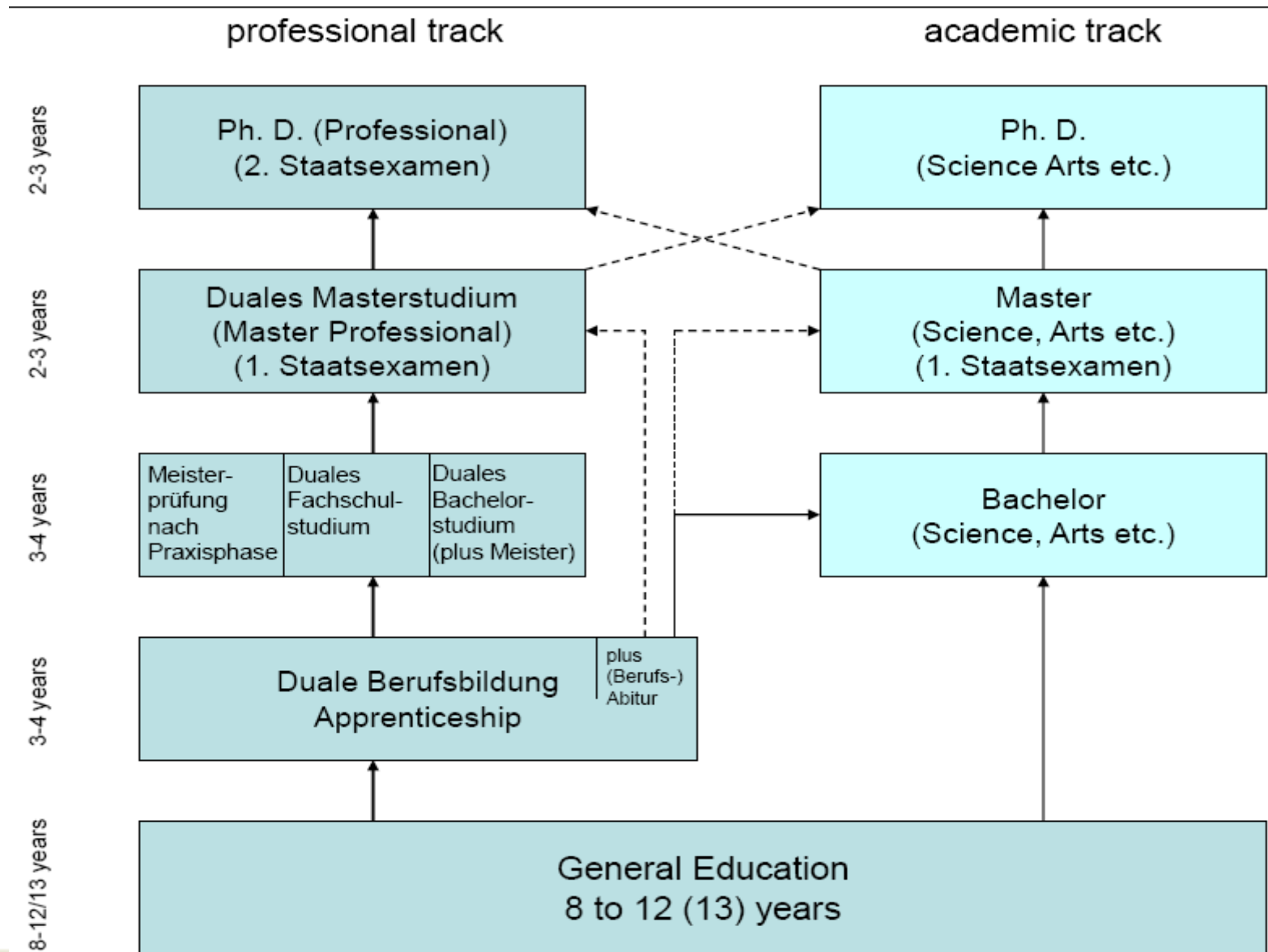
Modern occupations/professions are fundamental for:

- 3. The social integration of youth into the world of work and into the society**
- 4. Their participation in shaping the world of work in a social, economic and ecological responsibility**
- 5. (...)**



*Modern occupation instead of
,qualifications‘ according to
ESCO or ISCO approaches*

A successful and sustainable development strategy of an innovative apprenticeship system is only possible as a part of an Architecture of parallel educational tracks with a continuous dual vocational track.



Governance...

A four-field matrix

		<i>Fragmented versus co-ordinated integration</i>	
		low	high
Rationale of agency	Output	Fragmented output-oriented governance	Coordinated output-oriented governance
	Input	Fragmented input-oriented governance	Coordinated input-oriented governance

The application of the four field matrix requires the operationalisation of the dimensions by means of indicators or criteria

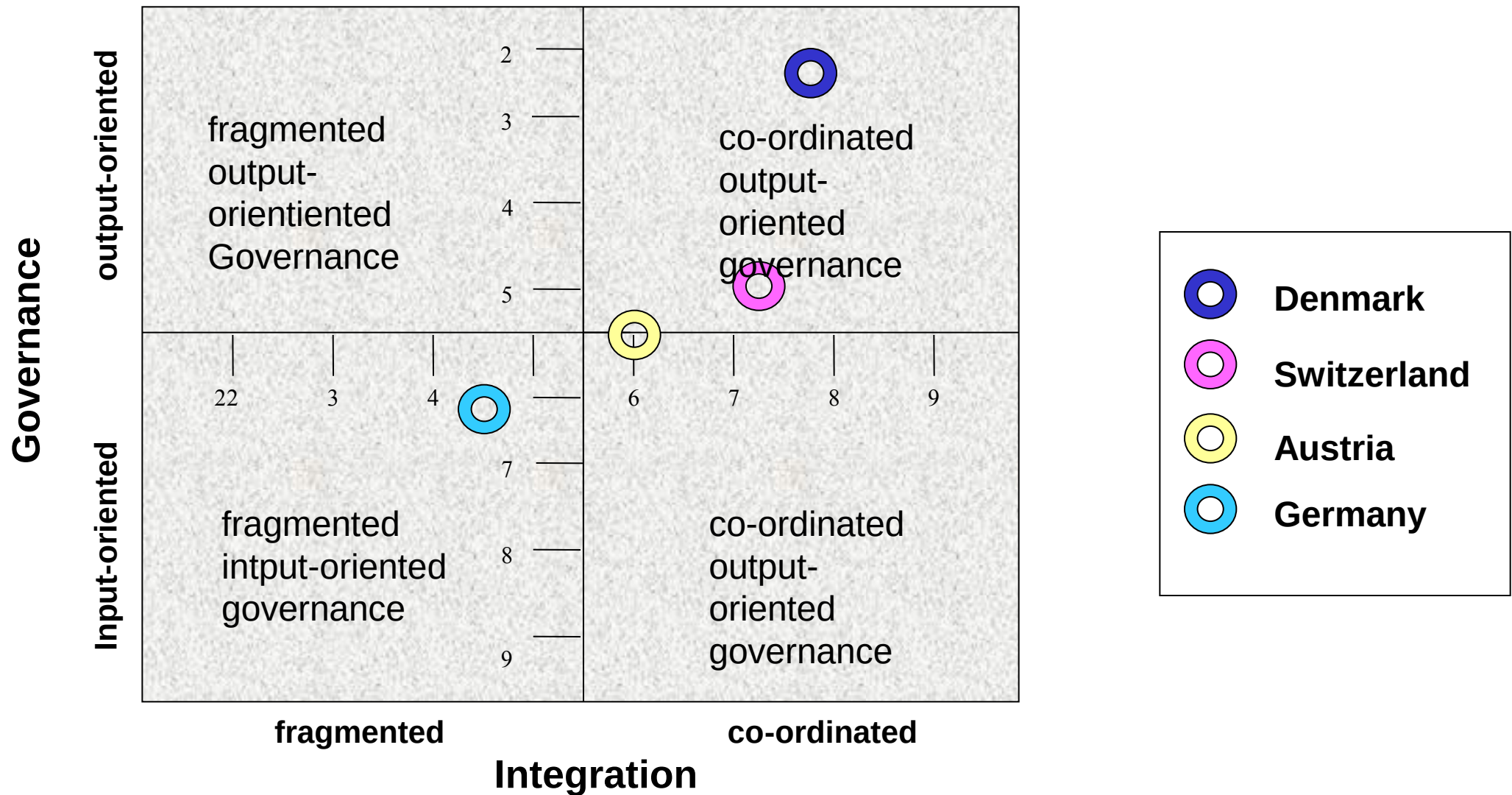
The first dimension includes the following indicators:

- (1) existence of a consistent legal framework
- (2) cooperation of the various bodies
- (3) existence of innovation strategies
- (4) balance of relevant policy areas
- (5) allocation of strategic and operational functions.

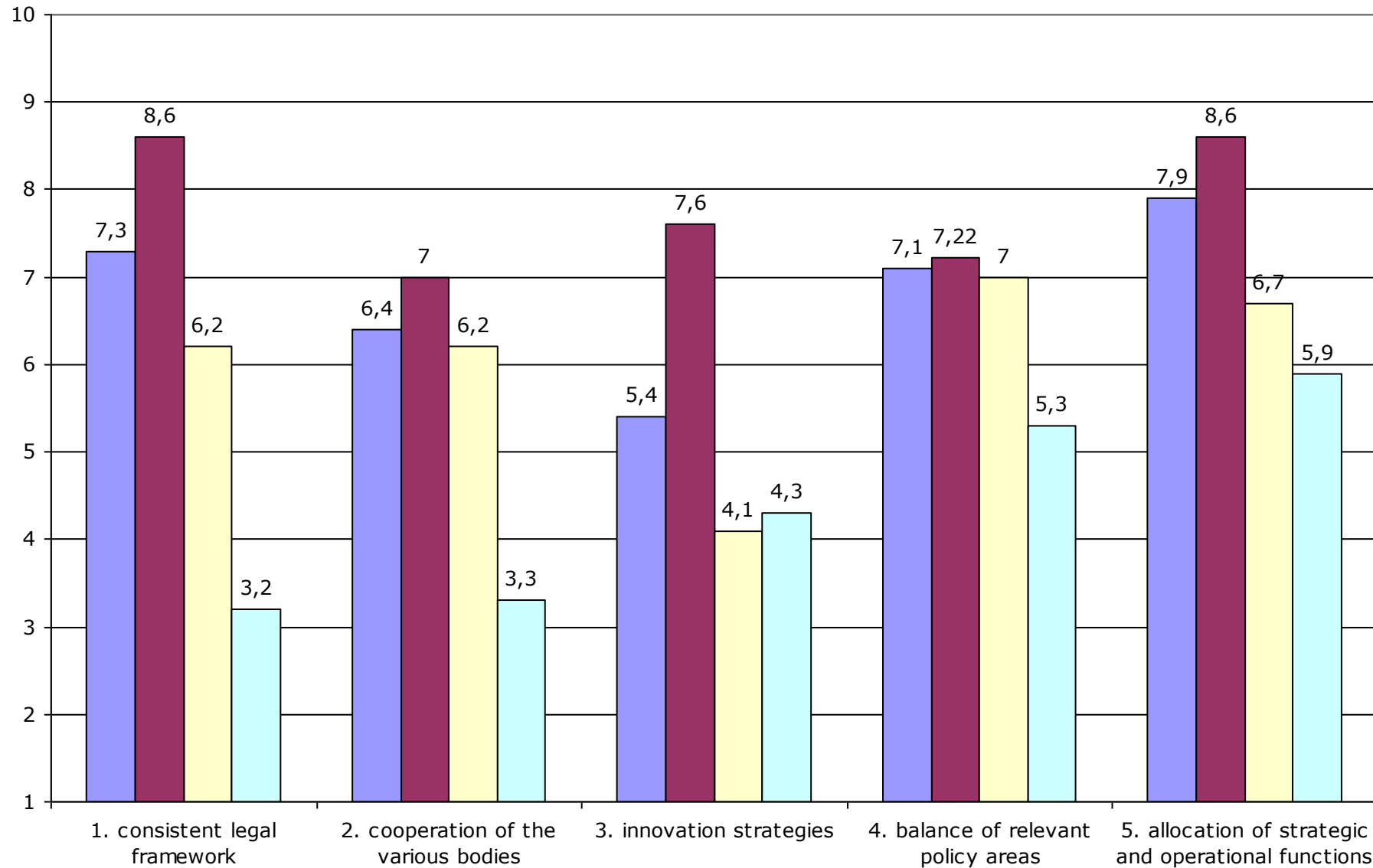
The second dimension includes the following two indicators:

- (1) output orientation**
- (2) input orientation**

Governance of dual VET systems in Austria, Denmark, Germany and Switzerland (cumulative results)

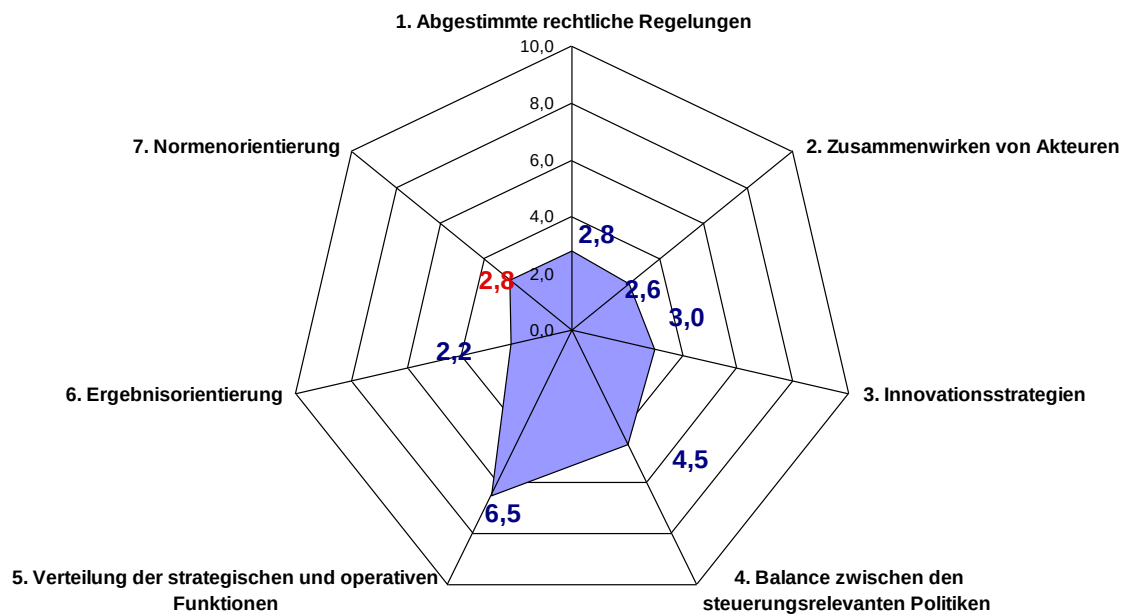


Governance of dual VET systems in Austria, Denmark, Germany and Switzerland (cumulative results)



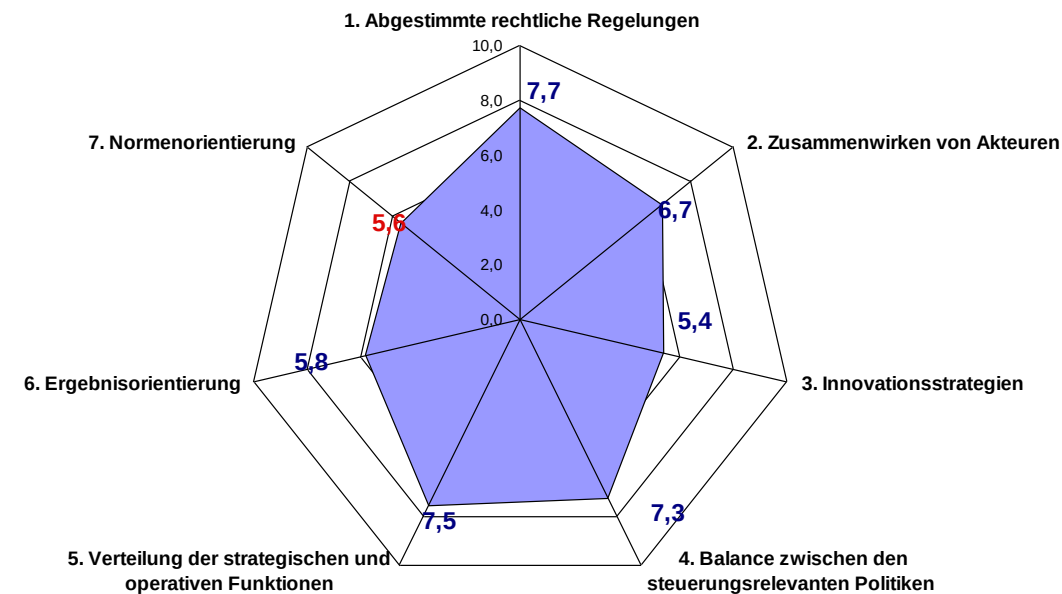
Classification of governance structures in dual vocational education and training

Median der Bewertungen



Germany

Mittelwert der Bewertungen



Switzerland

Requirements of Innovative Apprenticeship

or: What did we learn?



1. A balance between an integrated national VET policy with strategic functions allocated to the national level on the one hand, and a pronounced localisation of national standards with adequate room for manoeuvre for local VET agents of VET practice on the other.
2. Modern occupational profiles with preferably international relevance. The world skills competition demonstrate that there is still a considerable need for development in this regard. Moreover, occupations and occupational profiles have to be defined open enough to fit into the national economies and education systems.

3. A large proportion of enterprises – ca. 30-35% – have to be willing and able to participate in modern vocational training. Learning in instructive work processes, the reflected work experience, is the core of this type of vocational training. In modern dual vocational training, between 50 and 70% of the training time are assigned to learning in the work process.
4. In-company training must be organised in such a way as to ensure self-financing through the productive work of the trainees. In countries with developed VET systems it turned out that this condition can be met. On average the training costs are covered or even exceeded by the training revenue.

Requirements of Innovative Apprenticeship or: What did we learn?



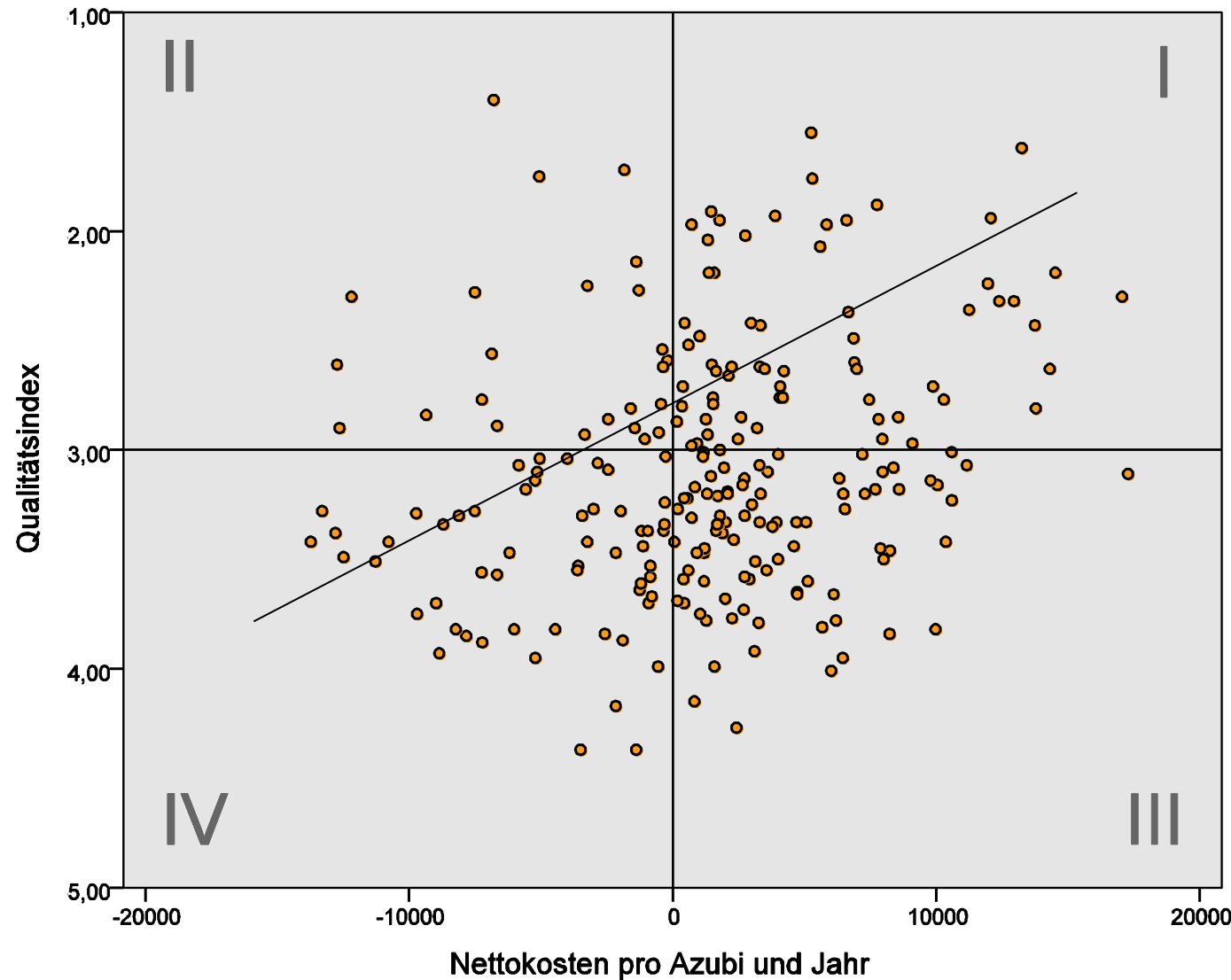
5. Vocational education has to be integrated into the national systems of education to enable trainees to attain a university entrance qualification. Here Switzerland is an example of best practice, since 90% of the students at universities of applied sciences have completed a dual vocational training programme before their studies.

Quality assurance and development...

- **Evaluating in-company training with QEK**
- **Assessment and development of competence development with COMET**

Quality and costs/benefits of in-company training

(Source: Own calculations with QEK in Germany)



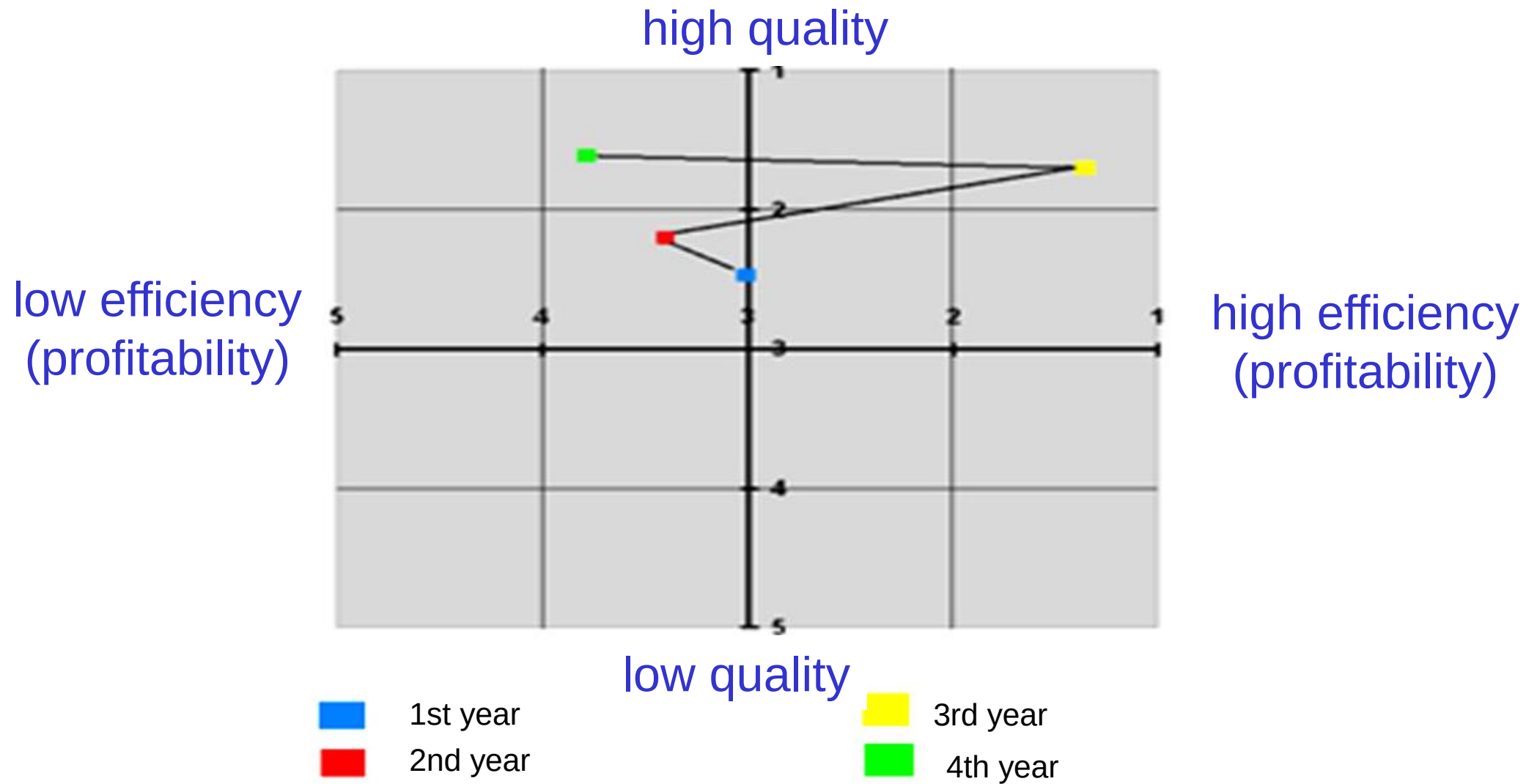
- I
Innovative
Apprenticeship
- II
Investive
Apprenticeship
- III
Employment-oriented
Apprenticeship
(Apprenticeship as a
cheap labor option)
- IV
Apprenticeship far from
real work-processes

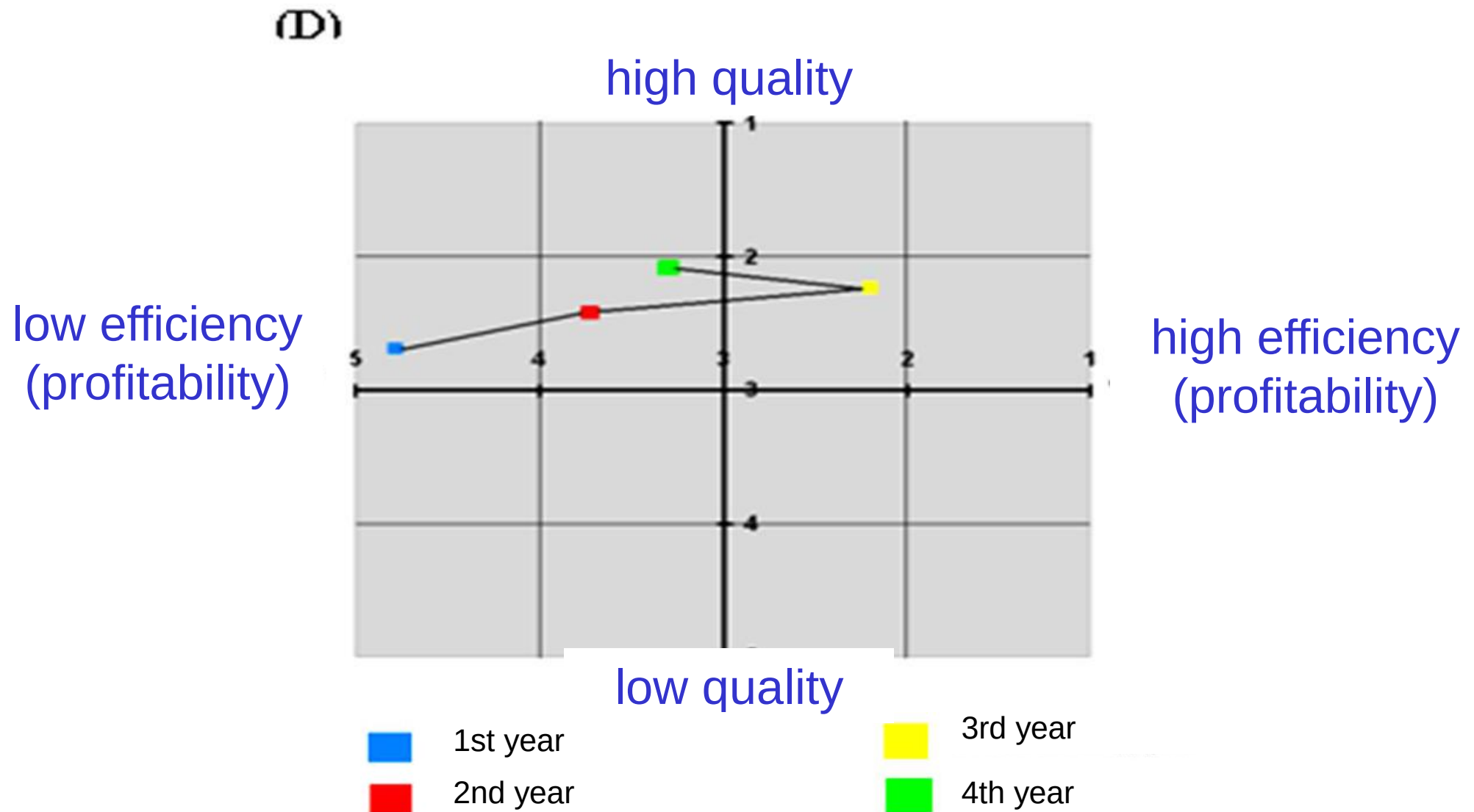
The QEK Types QRM - Example 1





(C)



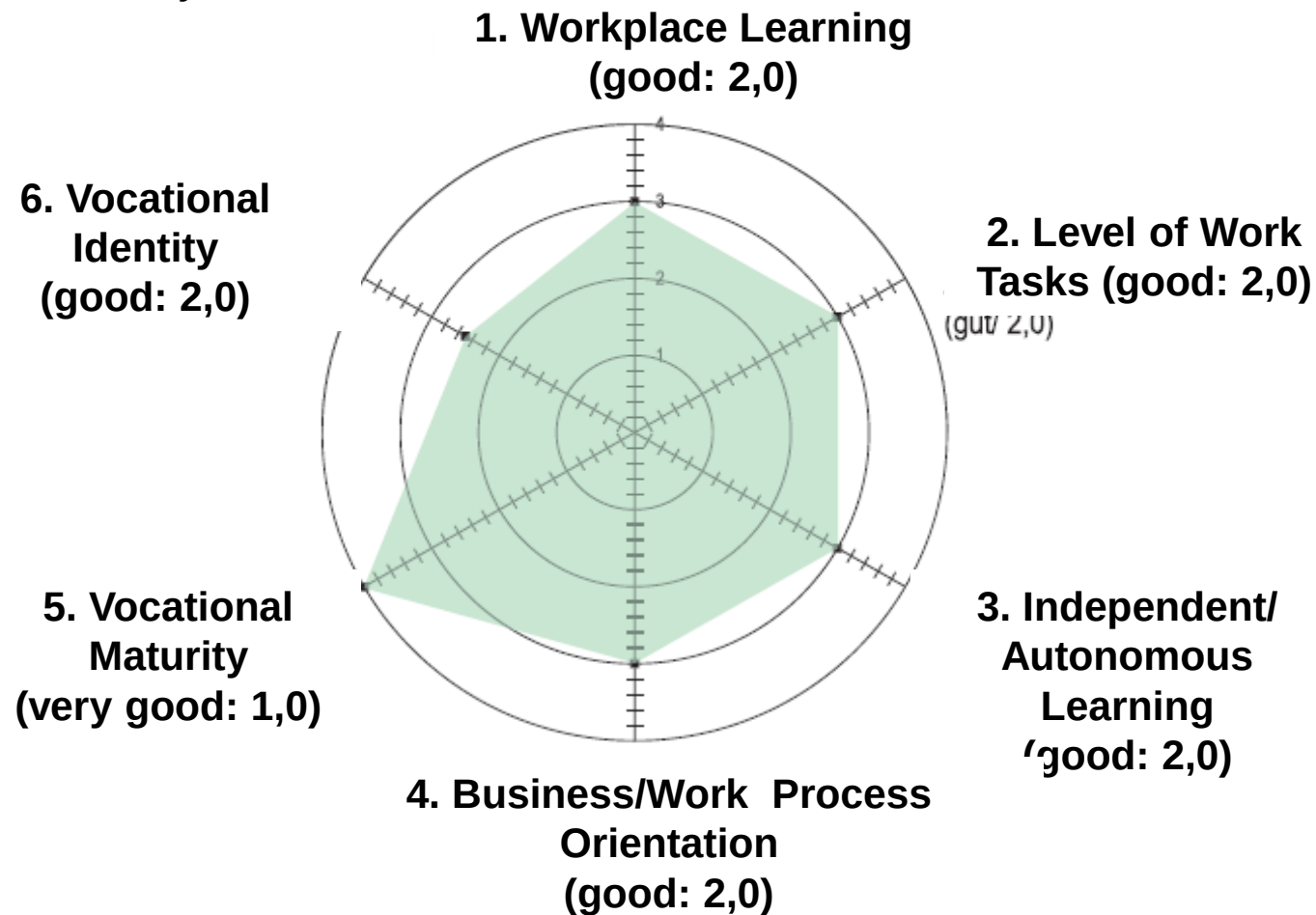


QEK Quality Diagram

(in-company training in one company: Case A)

Quality Diagram

(sum of all years of training)



1. Jahr



2. Jahr



3. Jahr

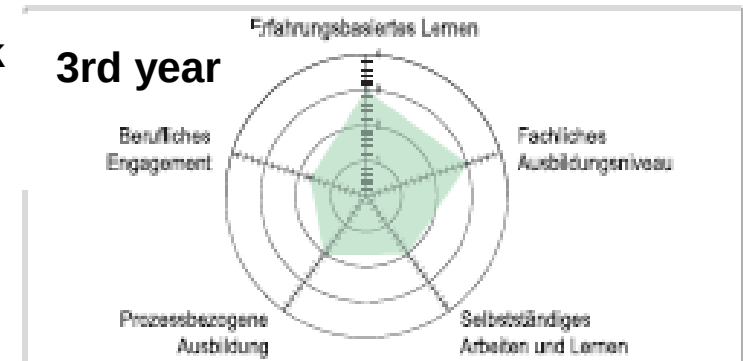
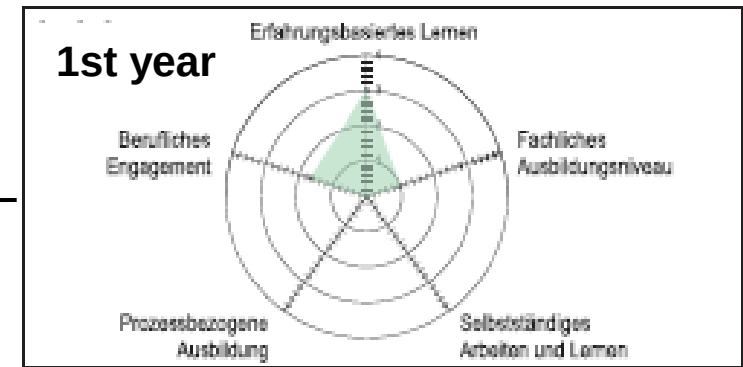
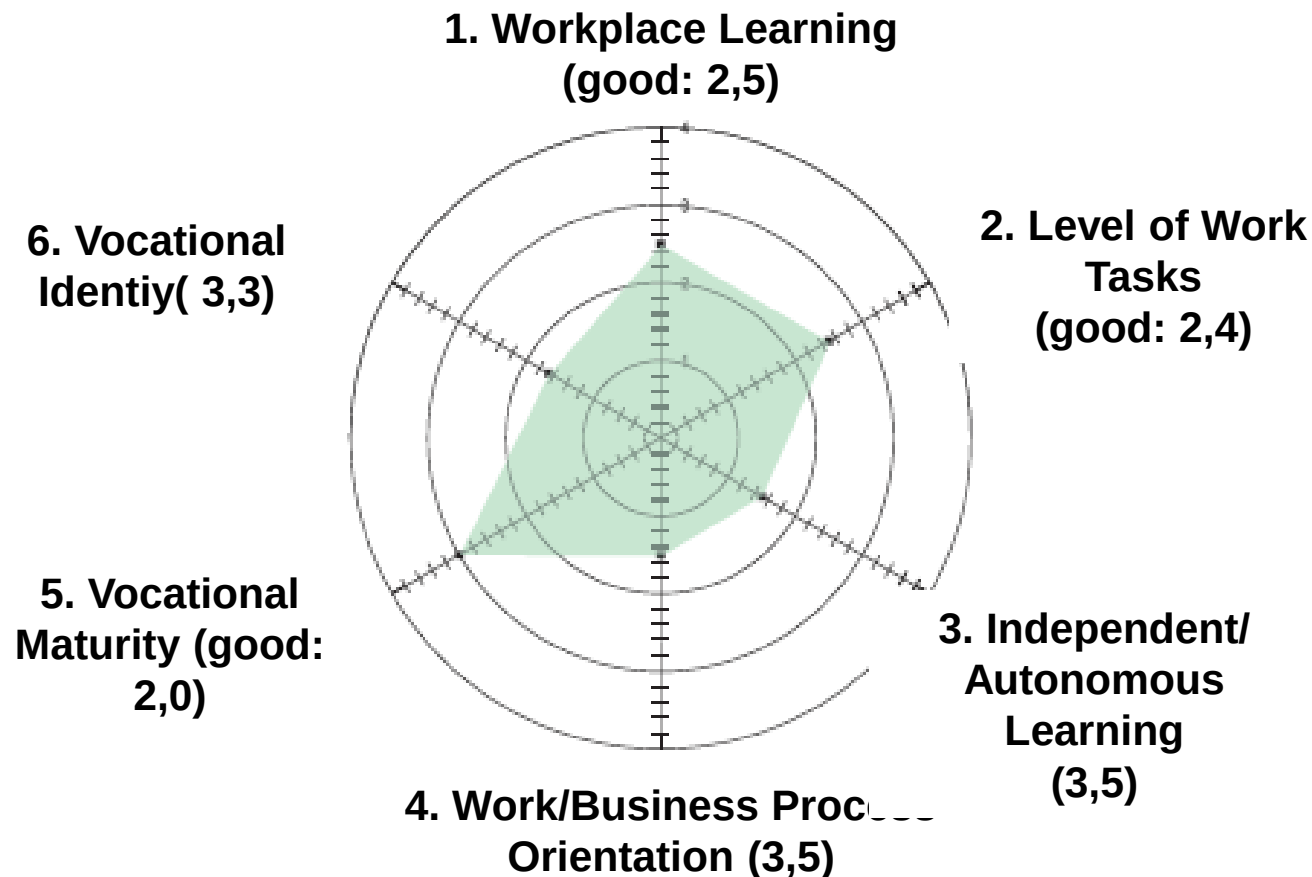


QEK Quality Diagram

(in-company training in one company: Case B)

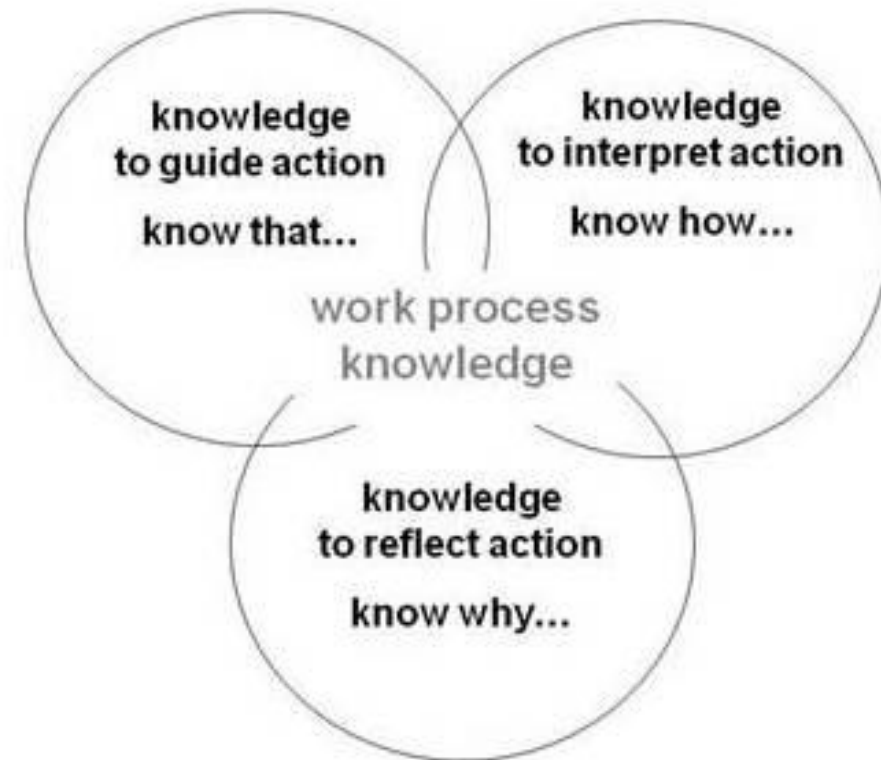
Quality Diagram

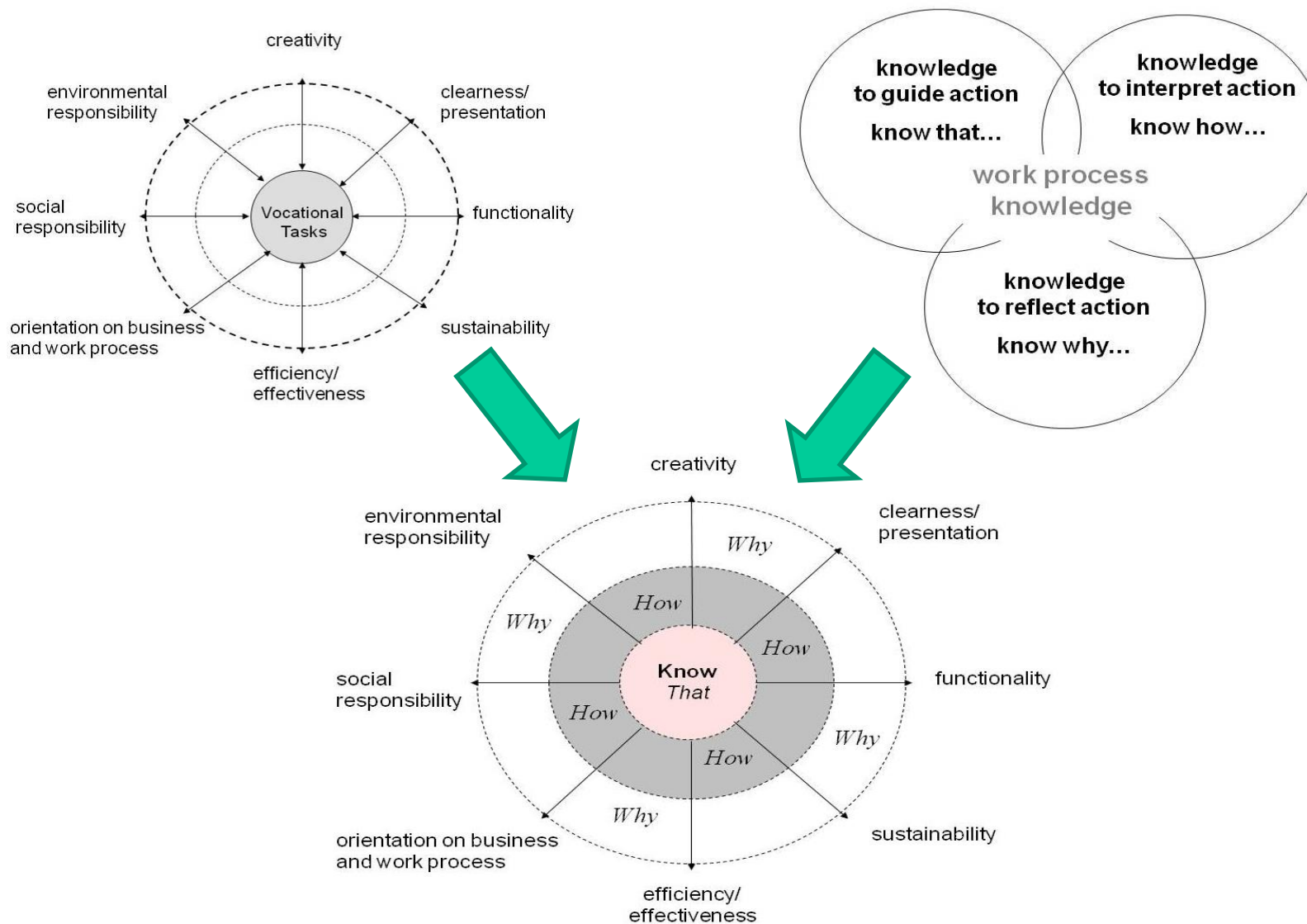
(sum of all year of training)



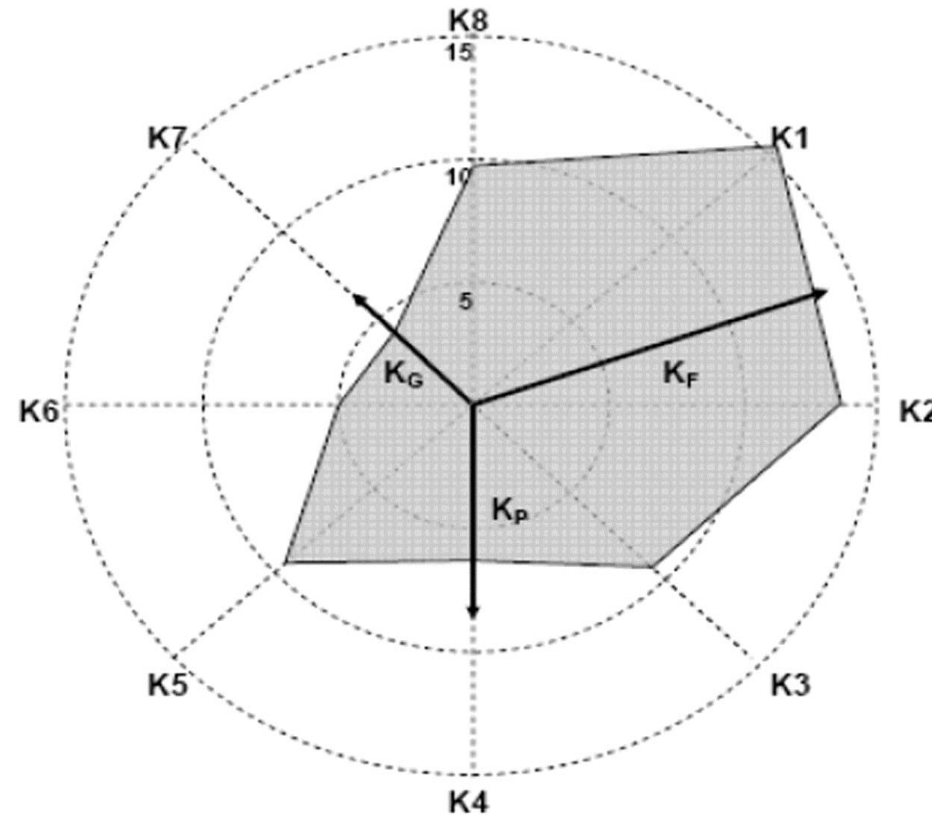


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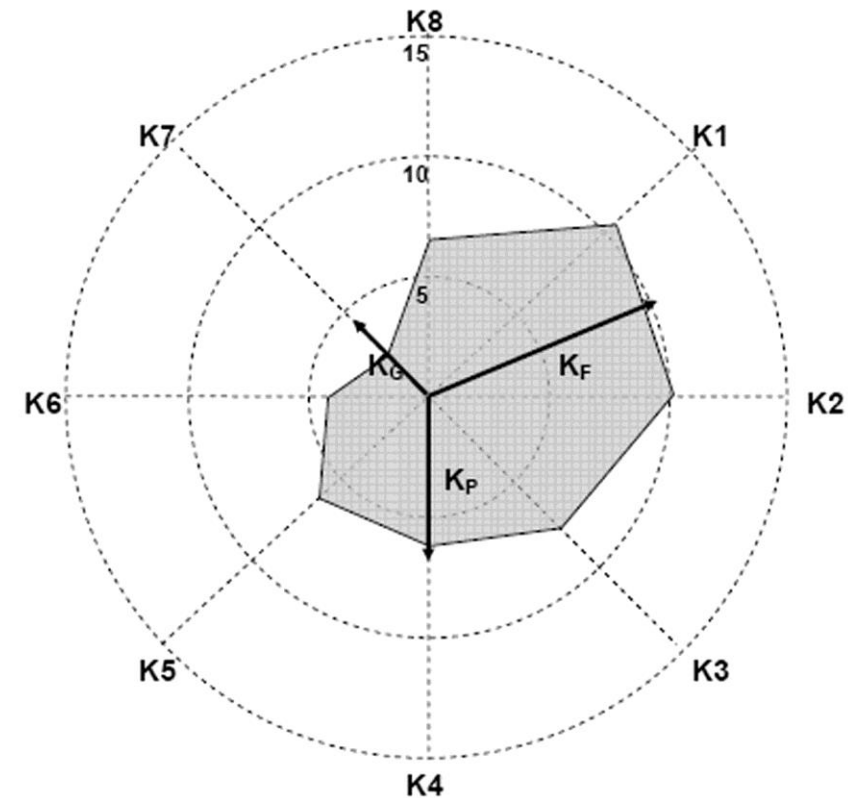
COMET competence profile of one individual apprentice



P_{Σ} : 29,6

K1	clearness / presentation	K_F	functional competence
K2	functionality/operability	K_P	processual competence
K3	orientation on use value	K_G	holistic designing competence
K4	efficiency/effectiveness		
K5	orientation on business and work process		
K6	social responsibility		
K7	environmental responsibility		
K8	creativity		

COMET competence profiles of two different VET classes (same occupation; same VET school)



Class A:

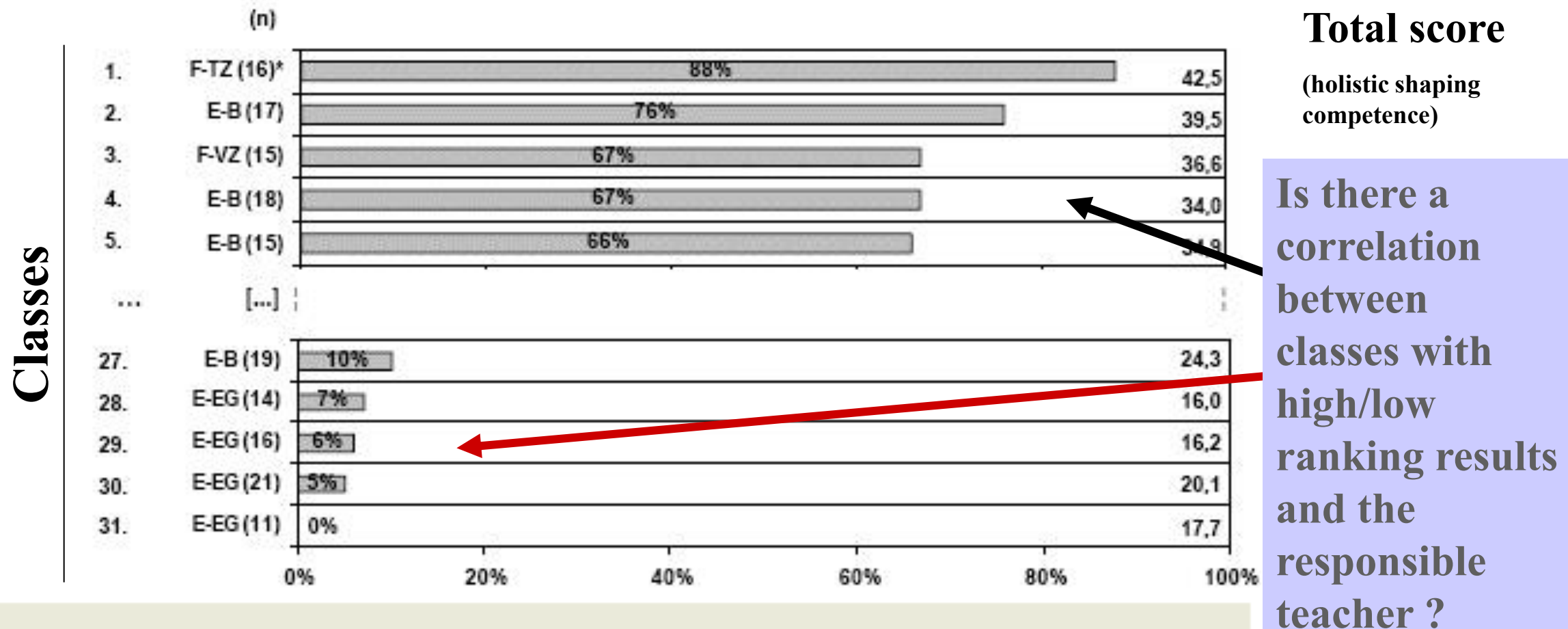
average total score: 39,5

Class B:

average total score: 23,4

„The most influential determinant for a successful vocational learning are TVET teachers and trainers“

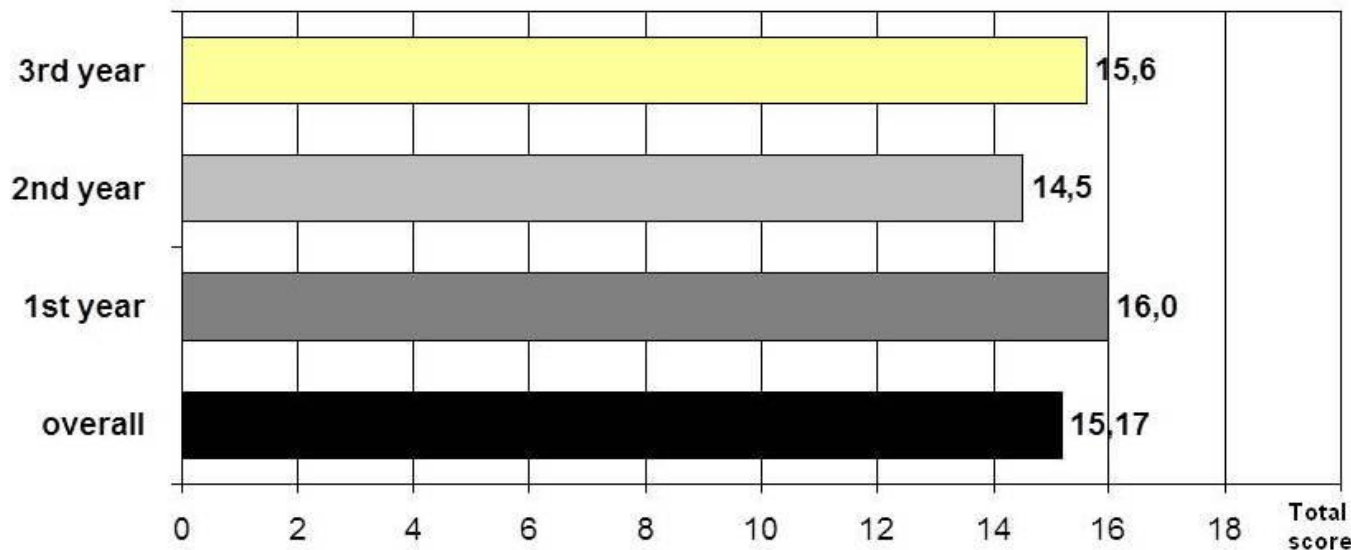
Performance of different VET classes (electrical engineering) in a COMET TEST



COMET test South Africa 2011 / test results

Stagnation of competence development!!

Comparison of the average total scores of the different years of training

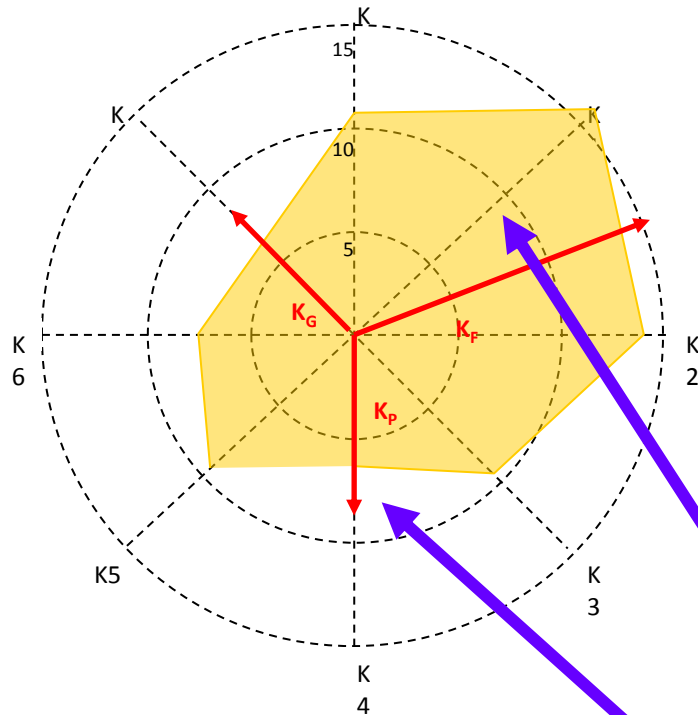


One of the most striking results of the COMET test in South Africa was the lack of competence development during the course of

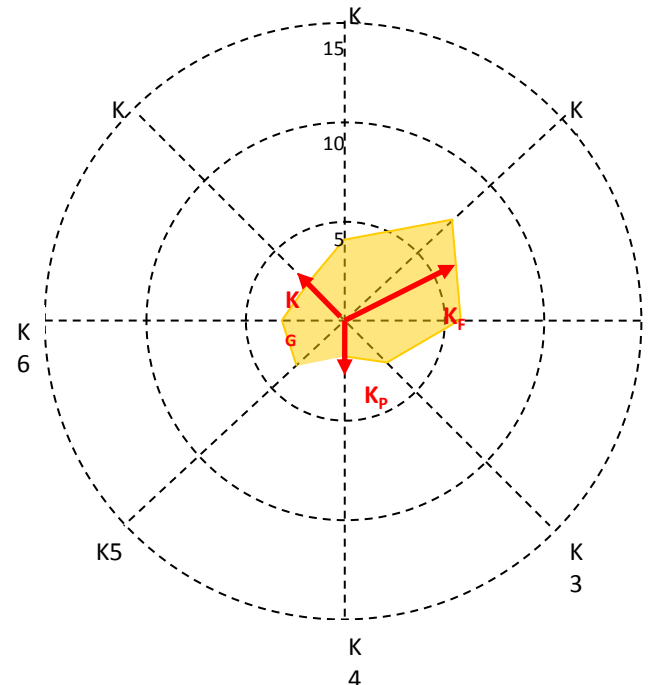
This surprising phenomenon can be ascribed to a highly modularised and horizontal form of vocational education.

Each time, a new module is introduced, a learner (no matter what year of training he or she is in) has again the status of a “beginner”. What was done in previous modules loses its relevance.

COMET competence profiles of VET teachers in electrical engineering and their class averages in a Chinese VET school



Chinese VET teachers
(n= 38)



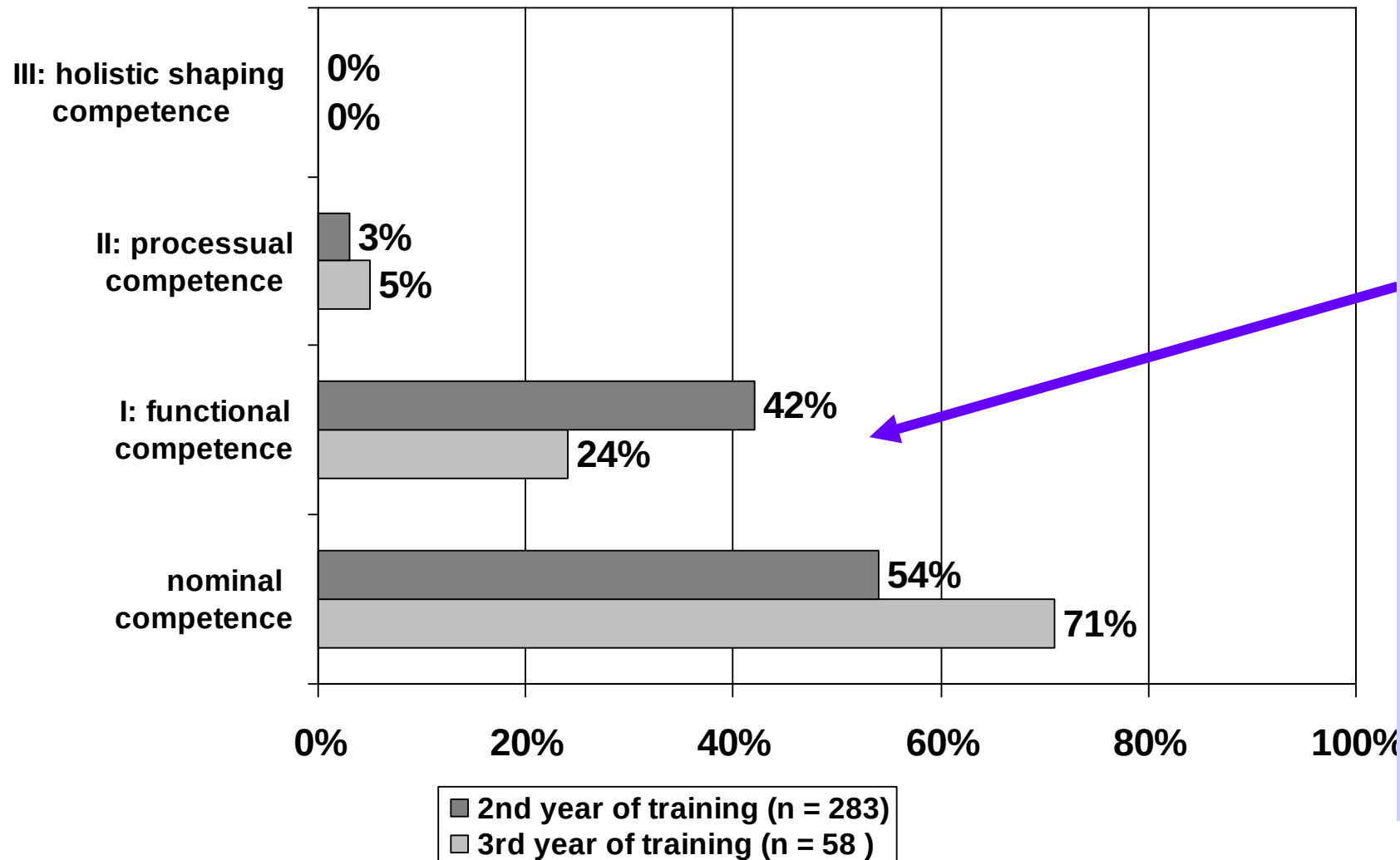
Chinese VET Classes:
(n=241)

2. The shape of teachers and students competence profile perfectly resemble each other.

„...you can only teach what you know“

1. High theoretical competence, low practical competence, difficulties in work process knowledge

In-company training as a determinat of competence development in China.



In China, apprentices in the 3rd year of training reach lower competence levels than in the 2nd year.

Reason: In-company training is introduced in year 3.

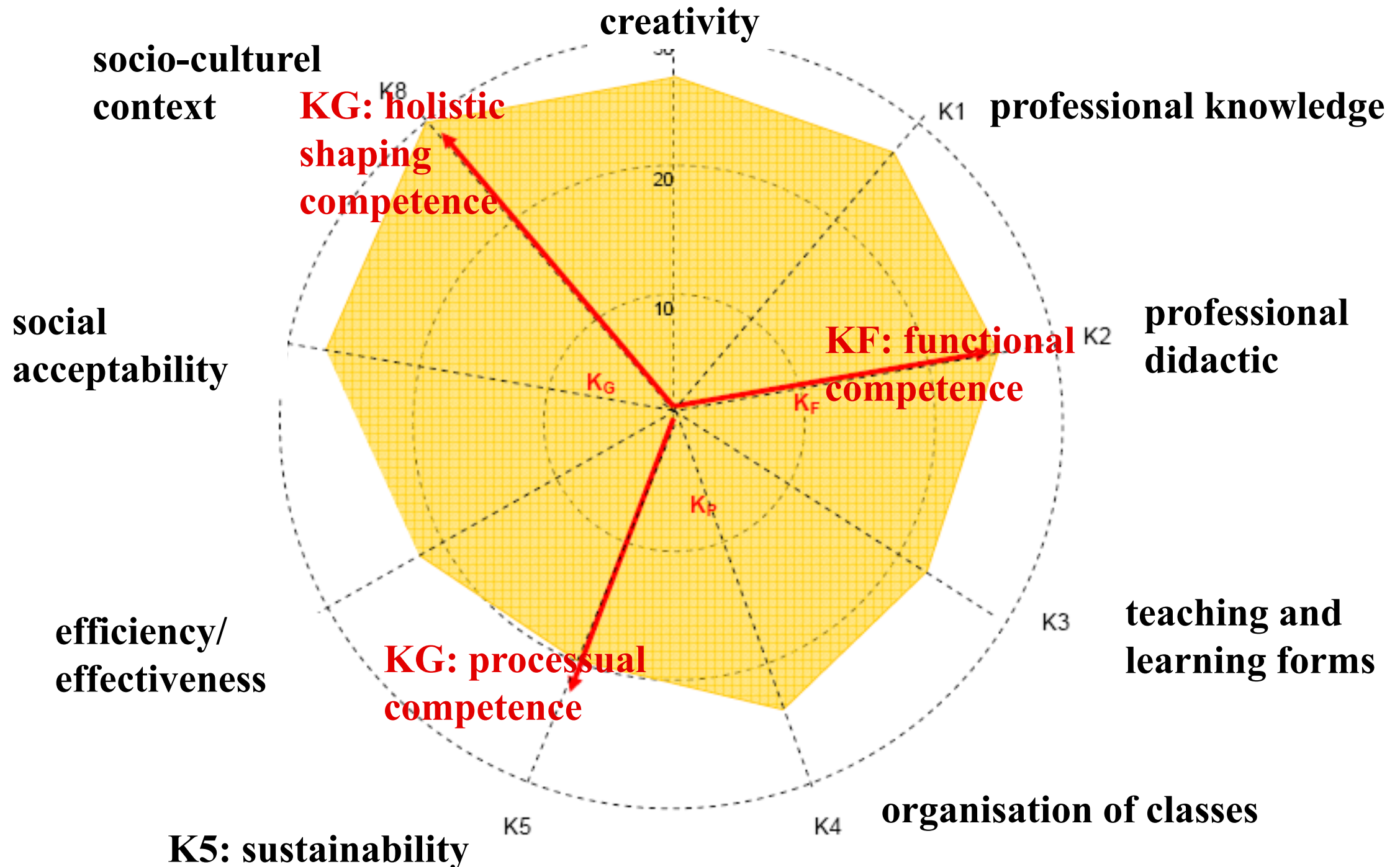
Students cannot relate theoretical knowledge to real work situations.

Main reasons for the weakness of in-company training in China and the low performance of 3rd year apprentices in COMET tests:

- **No/weak training the trainer tradition**
- **No/weak regulation and standards for in-company training**
- **No systematic co-operation between vocational colleges and companies**
- **TVET teachers at VET colleges have a rather poor knowledge of work processes**

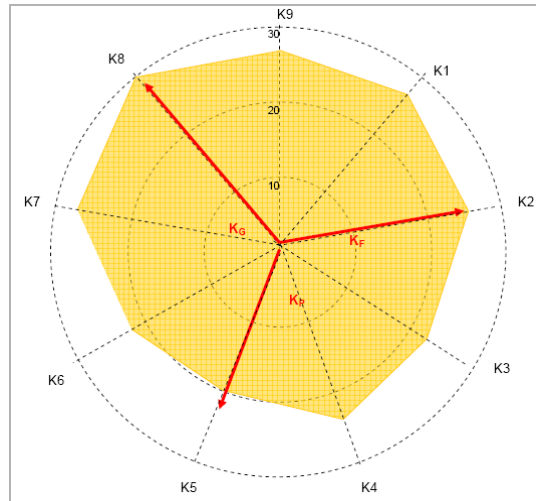
Competence Profiles of VET teachers

Pretest results with German teachers: an individual profile



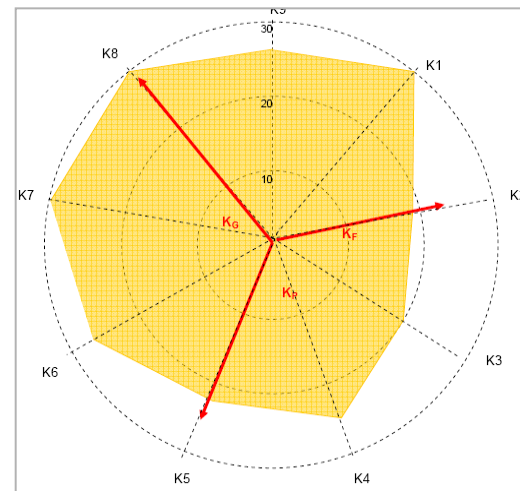
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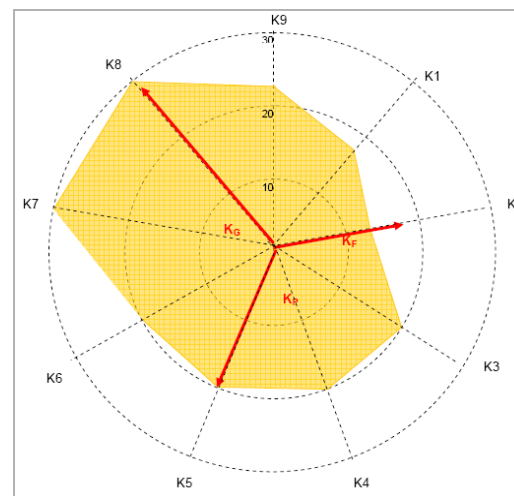
$P\Sigma: 76,1$

*Holistic shaping
competence at
high level*



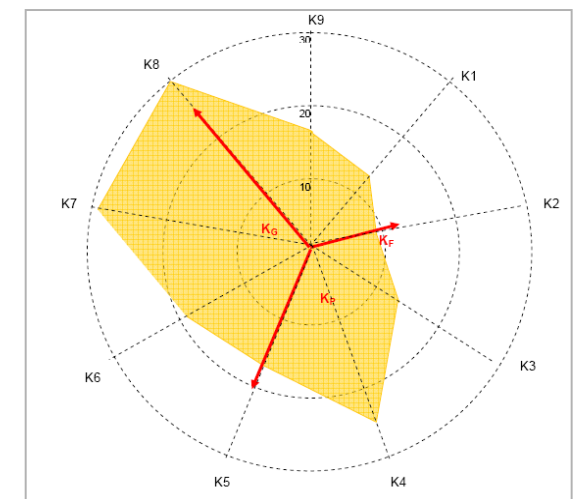
$P\Sigma: 75,3$

*Professional
profile, one-
sided*



$P\Sigma: 64,7$

*One-sided
competence profile,
socio-pedagogical
strengths*

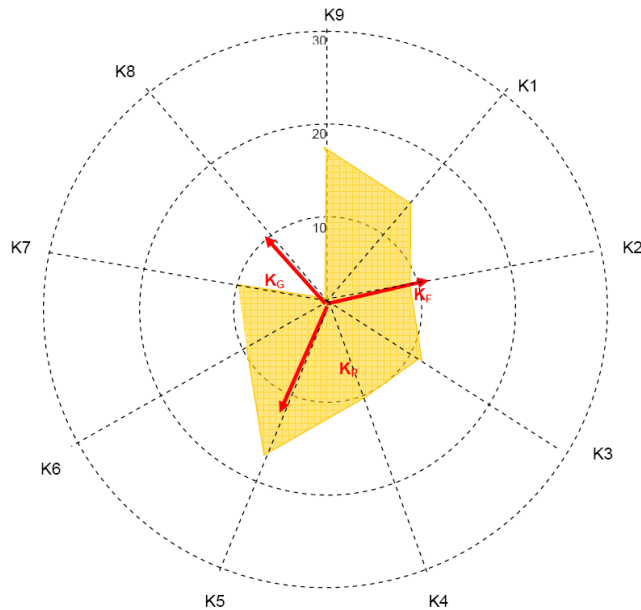


$P\Sigma: 56,2$

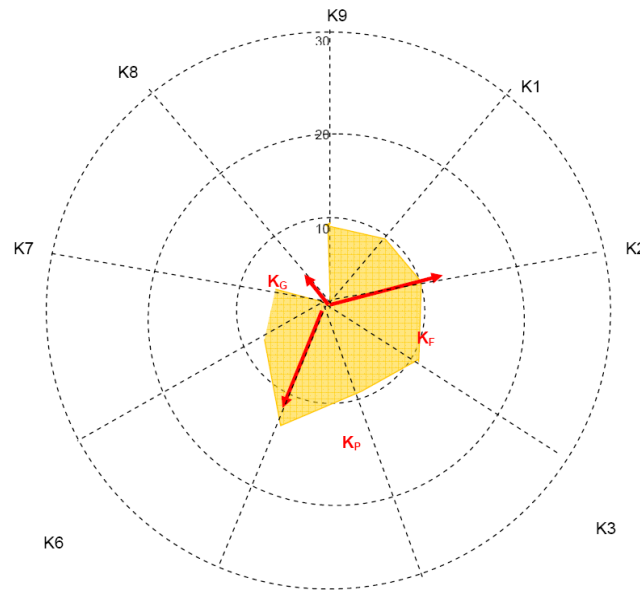
*One-sided
profile at lower
levels*

Competence Profiles of VET teachers

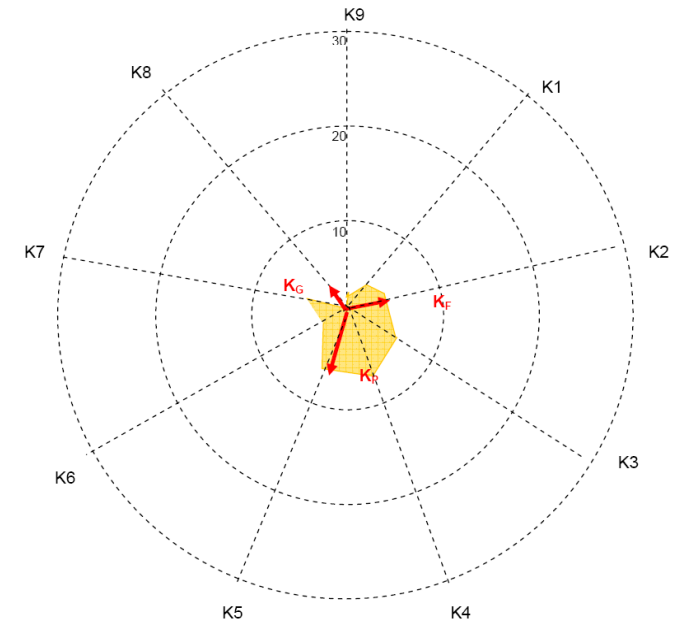
Second test results with German teachers: individual profiles



$P_{\Sigma}: 33,7$



$P_{\Sigma}: 24,7$



$P_{\Sigma}: 11,0$