



Competences of Vocational teachers in Germany, Iceland and Norway

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NORDYRK – Reykjavik

Session 4:5: Systems of VET teacher education

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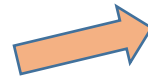
Context

Campus BWP M-V Project

Improve Education of VET teachers in
Mecklenburg-Western Pommern

Duration: 3/2020 – 12/2023

Empirical VETteach research Network





We have to know what Competence needed to develop better education of VET teachers

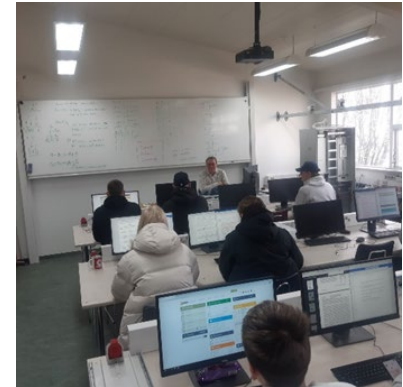
1. Analyse the tasks and needed competencies
2. Use the findings to give hints for better working conditions
3. Validate our findings

Specific work characteristics lead to specific outcomes – Examples:

- **High work intensity** can lead to stress, illness
- **Autonomy** in the workplace leads to learning and well-being
- **Social resources** and support at work can lead to well-being, job satisfaction

Concept

- **Approach:** Objective condition-based work analysis of VET teachers in different programmes
- **Theory:** Activity theory (Leontjew, Engeström)
Action regulation theory (Hacker, Volpert)
mental regulation of activities and their structure
- **Method:** Tool for Task Analyses and Job Design in Jobs with Mental Work Requirements - TAG-MA (Rau et.al. 2021)
- **Approach:** Analyse Documents, Observe work, Ask the Observed, Evaluate, create work descriptions and competence needed
- **Numbers:** 23 Observations with 7 involved researchers in Germany
28 Card laying VET teachers in Germany
32 Card layers in Iceland 
28 Card layers in Norway 



Methodological design 1 - The Observation

Task Analysis for Jobs with Mental Work Requirements (TAG-MA)

provides norm-oriented critical values (CIN / Working act etc.).

1. Studying documents about framework conditions
2. Two observers fill in independently a 60 pages questionnaire with 35 ordinal scales with anchored levels of content, while observing a teacher for 5 hours.

Three characteristic areas:

- work content and required cognitive performance
 - organisation and responsibility
 - learning requirements and opportunities.
- + Scales for dialogue-interactive tasks (DIA scales) work intensity (Z-AI)

Besser, Kaiser, Traum, Rau 2022

Examples of topics in the survey-questionnaire

- cooperation
- delegation
- reachability outside working hours
- Sequential completeness
- variety of tasks
- access to information
- **quality of feedback**
- interruptions and disturbances
- plannability
- degree of temporal freedom
- scope for decision-making
- cognitive level of demands
- responsibility for results
- emotional work demands.....
-

Questionnaire is filled
in by the observers

Skalen

A4.2 Güte von Rückmeldungen

Die Skala stuft nach der Güte von Rückmeldungen, die mit steigender Differenzierbarkeit anwächst. Damit Rückmeldungen über den Arbeitsfortschritt wirksam werden können, müssen sie detailliert und die Tätigkeit in Abschnitte gliederbar sein. Beides hilft um bestimmen zu können, in welchem Abstand sich der Arbeitende von der Zielerreichung befindet. Zudem kann die Information, in welchen Abständen bei auftretenden Fehlern erhält, unterschiedlicher Güte sein.

Zu erheben für die Gesamttrajektorie oder für Teilaufträge, wenn die Gesamttätigkeit aus mehreren Teilaufträgen besteht. Bitte wählen Sie alle zutreffenden Antwortmöglichkeiten aus.

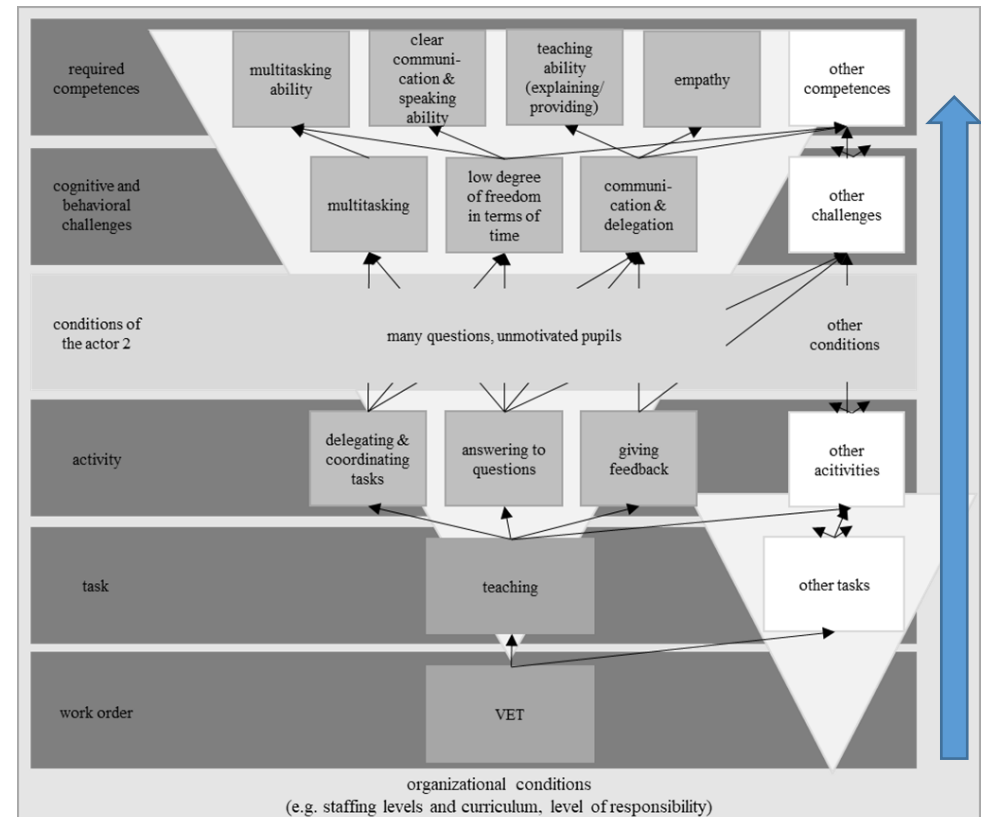
Stufe	TA1	TA2	TA3	TA4	TA5	GT
A						
B						
C						
D						
E						
F						
G						
H						

Stufe A Rückmeldungen sind nicht vorgesehen. Vermutlich sind aber Rückmeldungen aus lobenden/tadelnden Bemerkungen ableitbar oder es gibt Hinweise durch Kunden oder Kollegen.

Stufe B/C Die gegebenen Rückmeldungen sind nicht konstruktiv nutzbar, d.h. sie können keine Veränderung der Arbeitsweise oder -vorgänge bewirken. Eine fehlende Nutzbarkeit ist festzustellen, wenn es nicht möglich ist festzustellen, wo, wann, wie und wodurch Fehler verursacht wurden (z.B. wenn Rückmeldungen zu spät und zu grob sind (Beispiel: Rückmeldung der Verkaufszahlen am 1. September)).

Methodological design 2 - Validation Nr.1

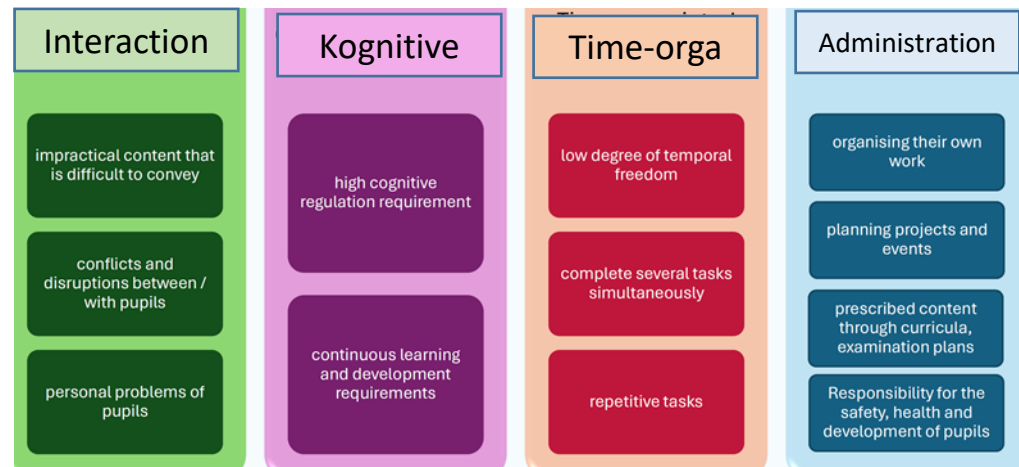
1. Evaluation based on interview with the observed person
“Did we catch it right that...”
2. Validation between the 2 observers, documentation of specific situations.
3. Quantitative analyses to develop the profile of the work conditions and tasks over all the observations



Methodological design 2 - Validation Nr.1

1. Evaluation based on interview with the observed person
“Did we catched it right that...”
2. Validation between the 2 observers, documentation of specific situations.
3. Quantitative analyses to develop the profile of the work conditions and tasks over all the observations
4. Conclusions for needed competencies

Example for Work Characteristics and Challenges of VET teachers work



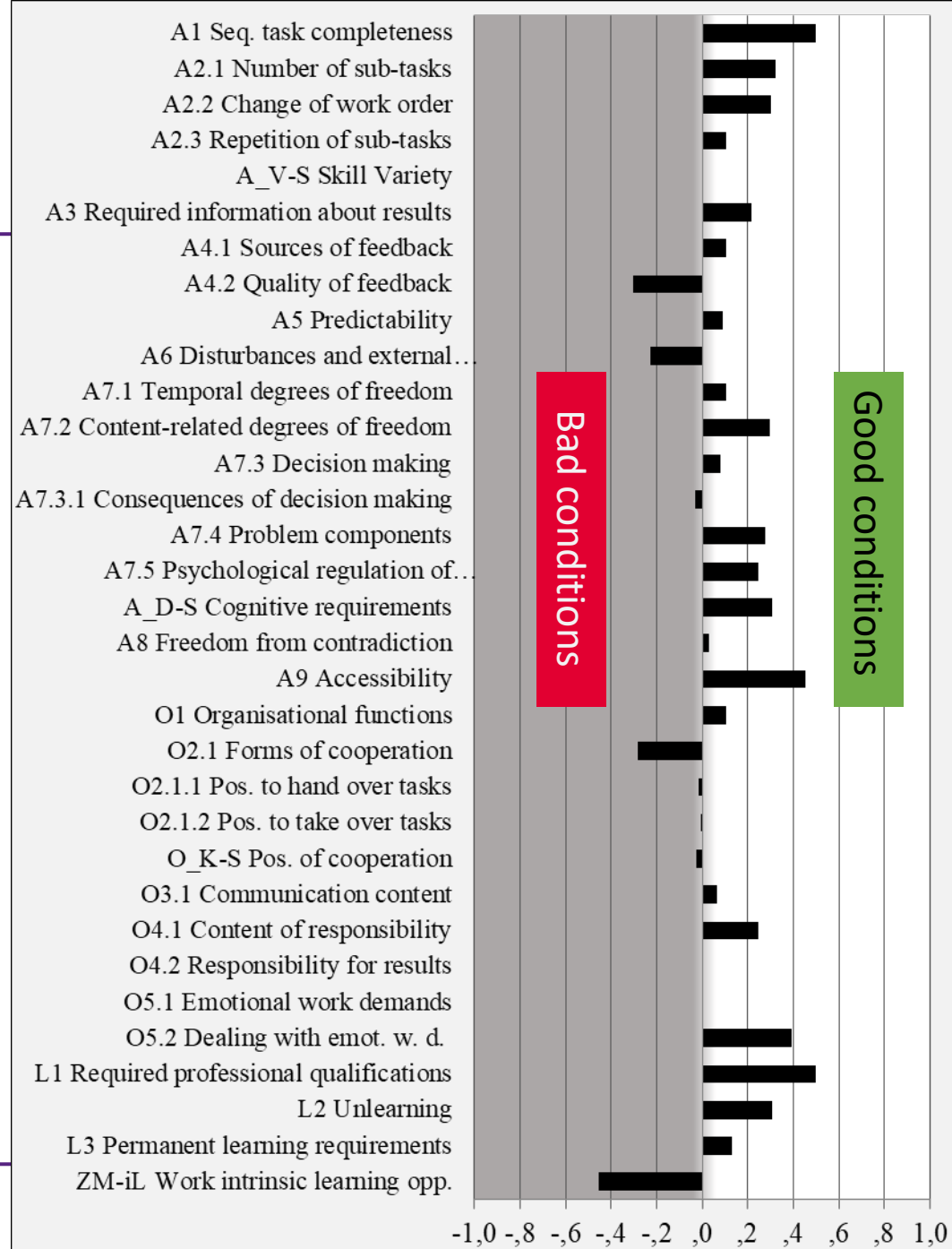
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Findings in Germany

VET teachers work is:

- demanding and challenging
- high but varying **degrees of freedom in terms of content and time**

(possibilities to plan one's way of working, but depending on framework curriculum, examination contents, training requirements, examination boards)



Second validation of findings

Rank the competencies

What are the most important skills for your job?

Which ones don't play a role in everyday life?

What have we forgotten?

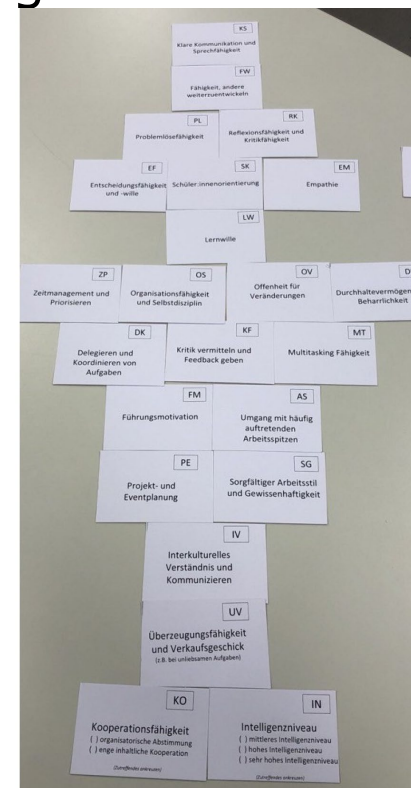
What is special about your area?



Methodological design 3 - Validation Nr.2

VET teachers competences in different programmes in Germany have to arrange 26 cards

- Rank the competencies
- What are the most important skills for your job?
- Which ones don't play a role in everyday life?
- What have we forgotten?
- What is special about your area?



First Findings in Germany

Essential Cognitive Skills:

- **High-Level Intelligence:** Required for all VET teaching positions to facilitate complex problem-solving and continuous learning (100% of jobs). Vital for navigating complex educational challenge and adapting teaching strategies to meet diverse learner needs.
- **Multitasking Ability:** Necessary to handle multiple tasks simultaneously across all teaching roles (100%).
- **Reflective and Learning Skills:** Critical for ongoing personal and professional development (100%).

Key Social and Communication Skills:

- **Effective Communication:** Essential for all teachers to ensure clear understanding and instruction (100%).
- **Empathy and pupils' orientation:** Important for understanding and addressing student needs effectively (100%).
- **Persuasiveness:** Necessary for engaging students in curriculum topics (100%).
- **Teaching ability**

Personal Management Skills:

- **Self-Organization and Time Management:** Critical for managing the diverse demands of teaching jobs (94.4% and 66.7% respectively).
- **Leadership and Conflict Management:** Important for those in roles with increased responsibility or in challenging teaching environments.






Methodological design 3 - Validation Nr.2

Comparison with Iceland and Norway



The collage features several elements: a group photo of people in traditional Icelandic clothing; a hospital ward with several beds; a map of Iceland divided into regions labeled A through I; a map of Norway with red markers indicating specific locations; a map of Norway South with a red marker; a photo of two people at a desk; a photo of people at a table; and a photo of a flight simulator.

Mind the differences

Aspects	Norway 	Iceland 	Germany 
Requirements	A: Tradeexam&2years work B: BA & 2 years work	Master Tradeexam or MA in a VET field	University entrance certificate & apprenticeship or internships
Provider	Universities or University colleges	University of Iceland	Universities
Duration	A: 180 ECTS / 3 years full B: 60 ECTS / 1 year practical pedagogical	A: 60 ECTS (1 year) working as teacher parallel B: 180 BA – to enter academic (no use)	BA & MA (300 ECTS) 2 subjects After study 1 1/2 year practice in school
Content and methods	Similar to Finland	Learning psychology, teaching, academic writing/reading, curriculum, VET Ped.	Educational science, VET, psychology, didactics, critical reflexion
Assesment	BA thesis (A); portfolio (B) Approval of teaching	Assignments, no tests, thesis, group work, 10 pages thesis	Scientific papers, teaching plans, oral exams, 100 pages Masterthesis
Jobs	VET schools	VET Schools	VET schools, transition system, higher VET school

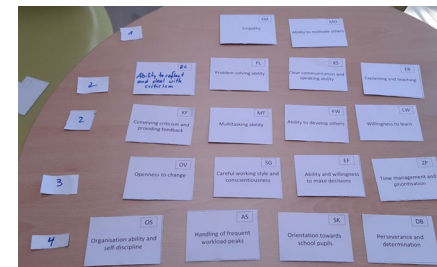
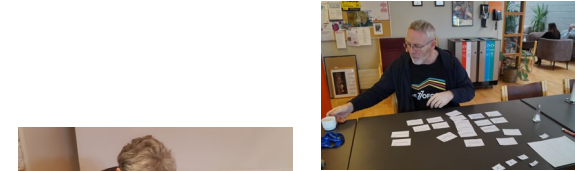
- Different VET systems
- Different Tasks of the VET teachers
- Different pathways to get into the position

Methodological design 3 - Validation Nr.2

- No systemical observations of the tasks
- Only short observations and card layings with short talks
- Number of cards reduced and in English



<https://padlet.com/franzkaiser/competences-of-vocational-teachers-in-norway-bvt4ldin5jswsyva>



Characteristics of the surveyed group:

Per Country

Parameters		Germany (n=17)	Iceland (n=21)	Norway (n=21)
gender	female	12	3	7
	male	5	18	14
Experience in Job	≤10 years	6	9	9
	>10 years	11	6	11
	missing		6	1
Number of competence cards		32	18	18

based on
Grosse (2024)

Main findings 1:



1. Ability to motivate Others
2. Willing to learn
3. Empathy
4. Teaching and Explaining
Clear Communication and speaking



1. Organisation ab. and self-discipline
2. Ability to motivate Others
3. Empathy
4. Teaching and Explaining
5. Orientation towards pupils

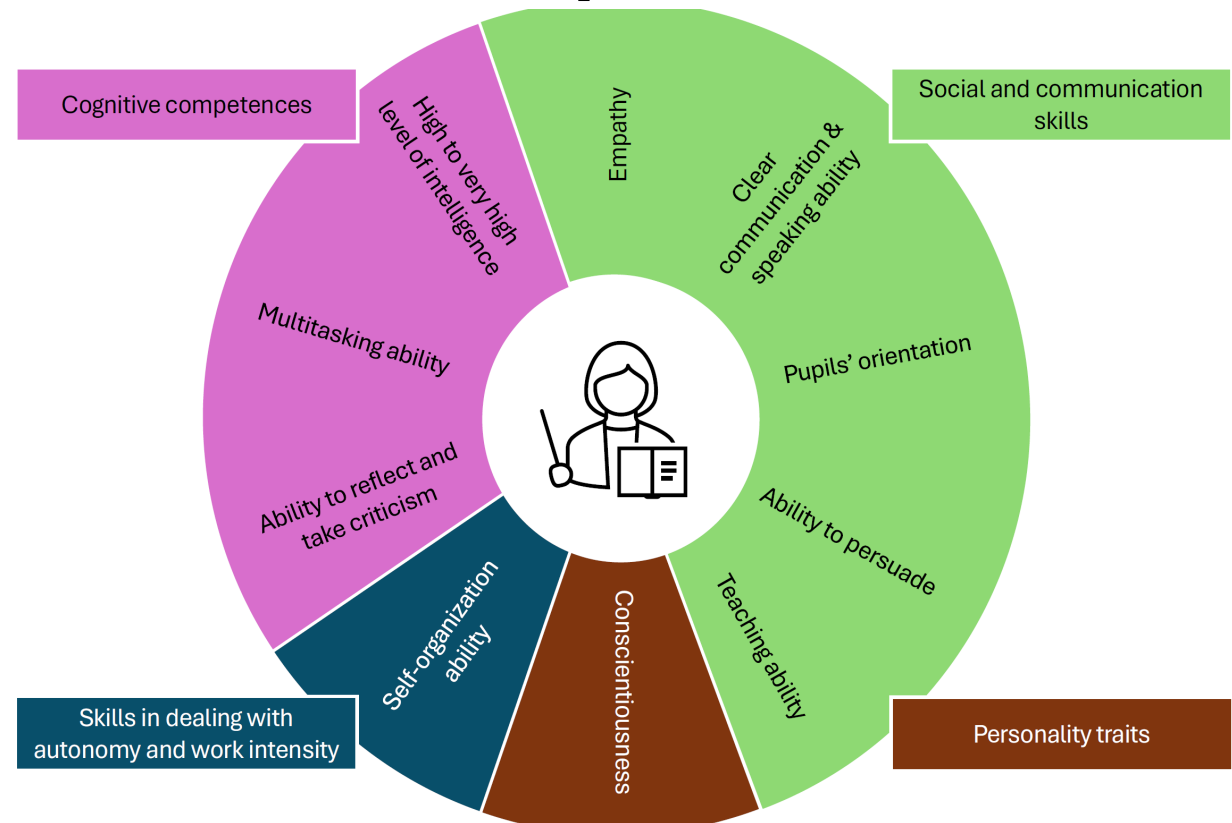


1. Willing to learn
2. Teaching and Explaining
3. Ability to motivate Others
4. Clear Communication and speaking
5. Problemsolving ability

Main findings 2:

- **"Ability to motivate others", "willingness to learn", "explaining and teaching" and "empathy"** are important competencies across countries, genders and experiences.
- **German BSLs** place particular emphasis on the competence **"organizational skills and self-discipline"**
- **Motivate Others** on first place in Norway correlates with the study of Brevik/Kaiser/Hoppe (2023).
- In comparison, **"dealing with frequent work peaks"** is less important for everyday working life across countries, genders and experiences.

Main findings 3: High level of agreement in the perception of the skills required



No findings about

- Influence of Gender
- Role of branches and occupational fields
- Role of Experience / Age
- Role of the school culture and specific tasks in school

Limitations:

- **Competences based on the observations in Germany**
- **Perspective from Workpsychology - No focus on the occupational specific Knowledge and competences and pedagogical goals of the work**
- **Small number of participants**
- **Differences in the way of getting the data**
- **Only one researcher in the international comparison**

Thank you for your attention, questions welcome

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