Proposal
for an IEA International
VET (Vocational Education and Training) Study

prepared by a group of experts within IEA Germany

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IEA mission

- „… gaining indepth understanding of the effects of policies and practices within and across systems of education“
- „…provide international benchmarks to assist policymakers in identifying the relative strengths and weaknesses of their educational systems“
- „…develop and improve the capacity of education systems to engage in national strategies for educational monitoring and improvement“

Vocational Education and Training (VET): effects on competencies,occupational careers, labor market and economic welfare

- Different systems of VET and economic organizations obviously show different success.
- Youth unemployment on the one hand and a lack of qualified workforce on the other mark central challenges for national economies.
- Preparation for workplaces: We find excellent preparation, but also maladaptations such as too narrow preparation for workplace needs or overqualification in domains with little demand.

VET systems: perspectives for evaulation

Competence - Human Ressources - Social Cohesion

(1) Development of personal competence, self-regulation and autonomy as well as occupational mobility.

(2) Efficient use of human resources from an societal and indivual perspective.

(3) Fostering social participation and equal opportunities for individuals and strengthening social cohesion

Evaluating VET systems: Methodological challenges

In measuring and comparing the performance of national VET systems with regard regard to these perspectives, specific methodological challenges have to be taken into account:

(1) How can vocational competencies be measured and compared?

(2) How can the relevant micro- and macrostructural conditions of VET systems in different countries be analyzed and compared?

(3) Acknowledging the differences of job classification schemes in participating countries: How can occupational fields and work activities be identified?

Completed Preparatory Activities

- **Feasibility study for a large-scale assessment for VET:** Baethge & al., 2006
- **Subsequent Expert Survey with N = 349 experts from eight European countries**: Baethge & Arends, 2009

  Analyses of **training conditions in three occupational domains**: industrial/technical (car mechatronics and electricians) vs. business and administration vs. social and health care

  Result: In these three domains, conditions are comparable with regard to:

  (1) **Standards** in terms of O*NET, ISCED, ISCO

  (2) Identification of **typical occupational tasks**

  (3) Judgments of their **relevance**

- **Pilot studies on computer-based, comprehensive, authentic assessment tasks:** Industrial clerks (Achtenhagen & Winter); carmechanics (Nickolaus et al.) (National Priority research Program on Educational Measurement)
- **Large Scale, Technology-Based Assessment Initiatives** (ASCOT Program)

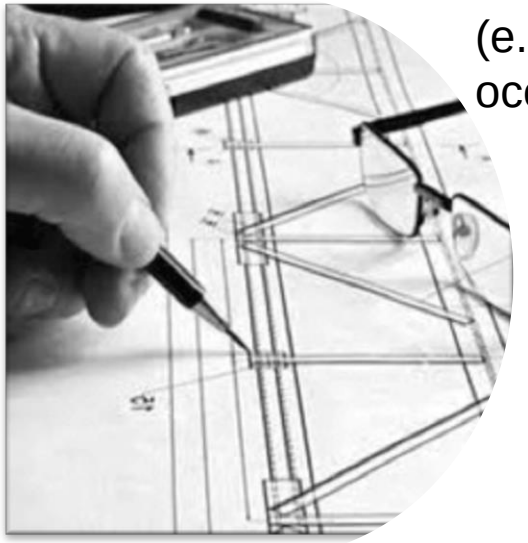
Measuring Vocational Competencies: Two complementary approaches

Work ability (specific vocational competence as workplace related knowledge, skills, and values)

Employability (generic vocational competence as a person's generic skill set and his or her formal and informal qualifications)

Measuring Vocational Competencies: approach #1

Work ability – specific vocational competencies (i.e., competencies that are strongly related to work) such as task relevant knowledge, skills, behavior, and judgement.



Patterns of work – **orientation, planning, reasoning aspect**
(e.g. reasoning strategies in the context of everyday work, occupational identity)

Requirements and tools of work – **action aspect**
(tasks that are strategically significant to the workplace and activities that an employee/worker must demonstrate)

Ways of working – **soft skills aspect**
(e.g. communication, judgment, content and demands)

Economic domain Industrial/technical domain Health domain

Tests for Car Mechanics:

Repairing a car requires the same competences worldwide

Prototypes can be internationally implemented; they are open for country-specific issues.

Tools of Working

- Electronic test equipment
- Expert system

Tasks of Working

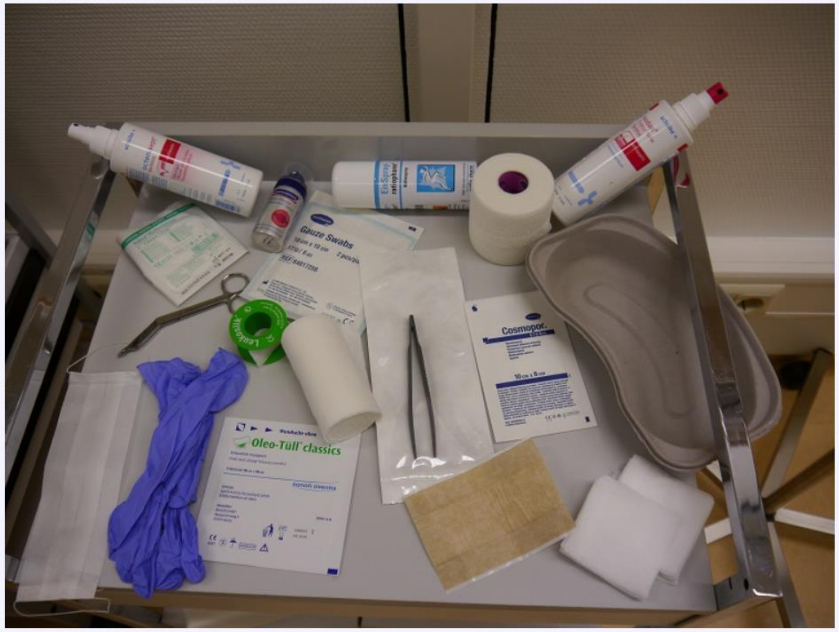
- Understanding trouble symptoms and fix a car
- Electrotechnical measurements

Measuring car mechatronics' troubleshooting competence

- Ecologically valid troubleshooting scenarios

Test for Medical Assistants: Task 1

Bitte klicken Sie die Materialien an, die Frau Nordmann für die Wundversorgung am Knie von Frau Schmidt benötigt.



Please, select the material for the wound care of the knee injury of your patient, Ms. Schmidt.

(Clicking on the material in the picture)

Test for Medical Assistants: Task 2

Video Vignette: It‘s Saturday afternoon, the medical practice has emergency hours. A female patient comes to the desk and asked to see the doctor for insulin, she had decided to stay longer in the city than planned, but she hadn‘t enough insulin with her. She was asked by the medical assistant to sit down in the waiting room. … A couple of minutes and three patients later a patient comes running up to the desk and shout, that the older lady is oviously in a poor health status and needs help.

Test persons were asked, what to do.
(*Situation:* The doctor is caring of another emergency patient.)

Wie sollte die MFA, Frau Müller, in dieser Situation reagieren?
Kreuzen Sie bitte die richtigen Antworten an.

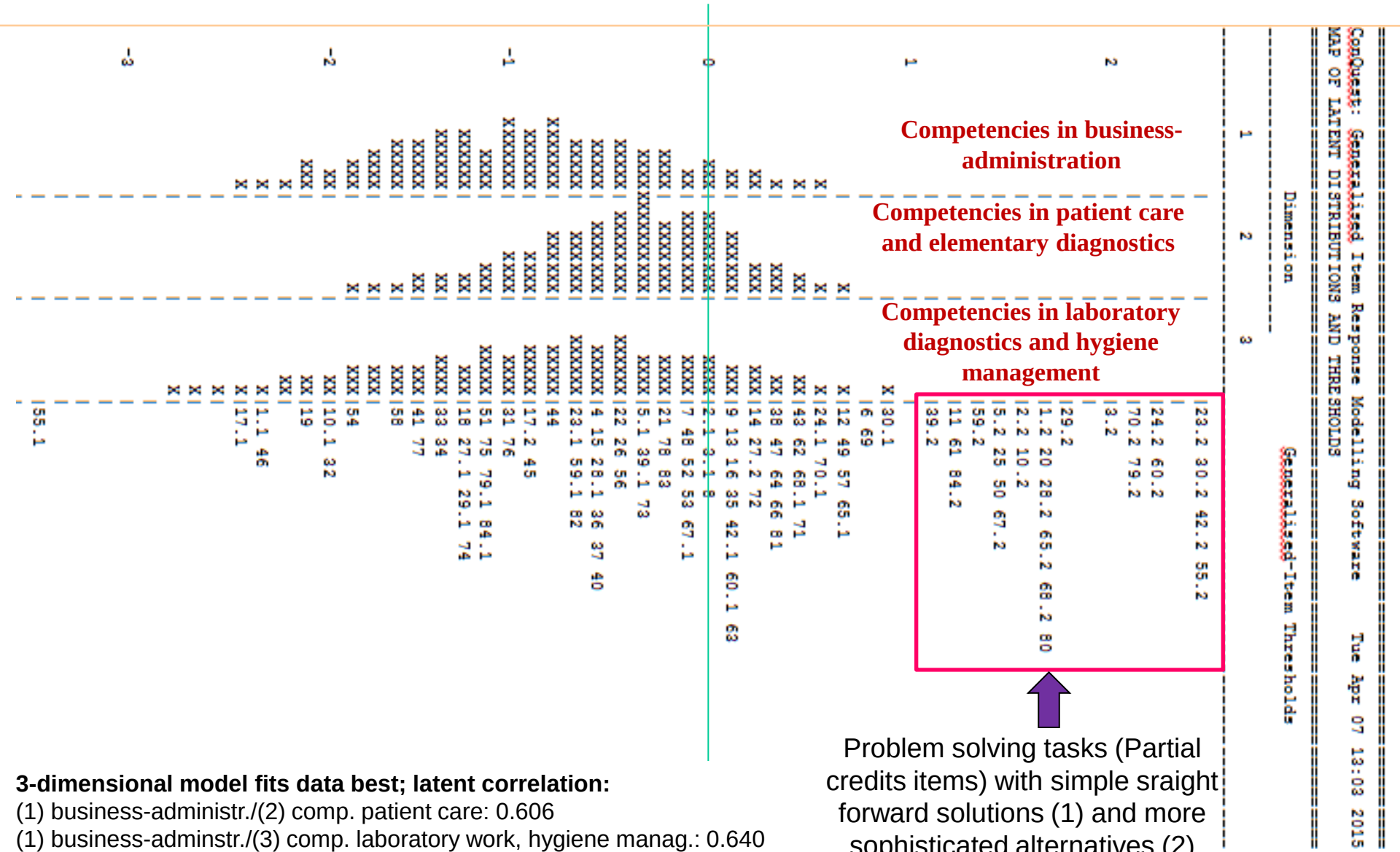
Die MFA sollte...

- ☐ ...die Patientin in eine stabile Seitenlage bringen.
- ☐ ...die Patientin in die Schocklage bringen.
- ☐ ...der Patientin Traubenzucker zuführen.
- ☐ ...den Arzt rufen.
- ☐ ...die anderen Patienten bitten, mit anzupacken und Frau Daum ins Behandlungszimmer zu tragen.
- ☐ ...den Blutzucker, Blutdruck und Puls messen.

Scoring:

3 and 4 right answers	= 2 points
2 right answers	= 1 point
0 and 1 right answers	= 0 point

Test for Medical Assistants
Three-dimensional model has best fit



Problem solving tasks (Partial credits items) with simple sraight forward solutions (1) and more sophisticated alternatives (2)

3-dimensional model fits data best; latent correlation:
(1) business-administr./(2) comp. patient care: 0.606
(1) business-adminstr./(3) comp. laboratory work, hygiene manag.: 0.640
(2) comp. patient care/(3) comp. Laboratory work, hygiene manag.: 0.807

Measuring Vocational Competencies: approach #2

Employability – Generic vocational Competencies = cross-sectoral cognitive and non-cognitive dispositions related to work activities and tasks.

Different aspects/domains of **literacy** related to vocational aspects

Living in the world of work (e.g. **dispositions** for self-regulated learning)

Abilities related to continuous learning, **collaboration** and responsible action

Explanatory Factors

to be measured at the individual, institutional and context levels, allowing to analyze use of human ressources and social cohesion

Individual level (e.g. socio economic background, gender, work experience, life long learning aspirations)

Institutional level
(e.g. opportunities to learn and work, design and support of learning processes)

Context level (e.g. structure of the vocational training system, value-added measurement of workplace and market characteristics)

Time table of a VET-Study

Overview

2016	Policy study (expert interviews in countries)
2017	Report on Policy Study
2018 - 2019	VET-Pilot-Study: – Modification and translation of instruments and decision about instruments – Pilotstudy instruments
2020 - 2021	VET-Main-Study: – Sampling procedure – Data Collection – Report

Communicating the importance of a VET study to policy makers both in education and in labor market policy

Bridging the gap between general education and vocational training with respect to labor market needs and personal development.

Facilitating the articulation of national priorities for political strategies to reduce youth unemployment by improving national VET programs.

Utilizing vocational competences (augmented by general educational indicators, such as national investments in education) as indicators for the performance of national economies.