

# Effects of work-oriented basic adult education trainings:

**Addressing employee's competencies across sectors**

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# Agenda

- Introduction
- Research Question
- Theoretical Background
- Methodological Approach
- Findings
- Discussion

# Introduction

- Based upon research project ABAG<sup>2</sup>
- Funded by the German Federal Ministry of Education and Research
- Acquisition of competencies through workplace-related trainings
  - professional competence
  - methodological competence
  - social competence
  - self-competence
- Longitudinal self-assessment of participants needing basic education
- 50 trainings and 304 participants are considered within the study

# Introduction

- Competencies are considered crucial by the European Union (2018)
  - personal fulfilment
  - participation on the labour market
  - social participation
- Continuing scientific discourse
- Conclusions regarding the anticipated effects of training
- Relevant for trainers and employers

# Research Question

- What kind of effects of work-oriented basic adult education trainings can be found and do they vary across sectors?

# Theoretical Background

- Literacy and adult basic education are on the political agendas of developing and industrialized countries, but also of international organizations like UNESCO, OECD and Worldbank
- International Adult Literacy Survey (IALS) defines literacy as:

*“...an advancing set of skills, knowledge, and strategies that individuals build on throughout their lives in various contexts and through interaction with their peers and with the larger communities in which they participate”*

*(Kirsch 2001, p.4)*

# Theoretical Background

- Whilst the Programme for the International Assessment of Adult Competencies (PIAAC) underlines the importance of competencies (*Maehler 2018*)
  - job-market
  - social life
- Level One (LEO) focuses on the lowest competence level
- 62.3% of adults with low literacy are in occupation (*Grotlüschen & Riekmann 2012*)
- Consequently, work-oriented trainings are one of the areas to look at in order to increase literacy levels and adult basic education

# Theoretical Background

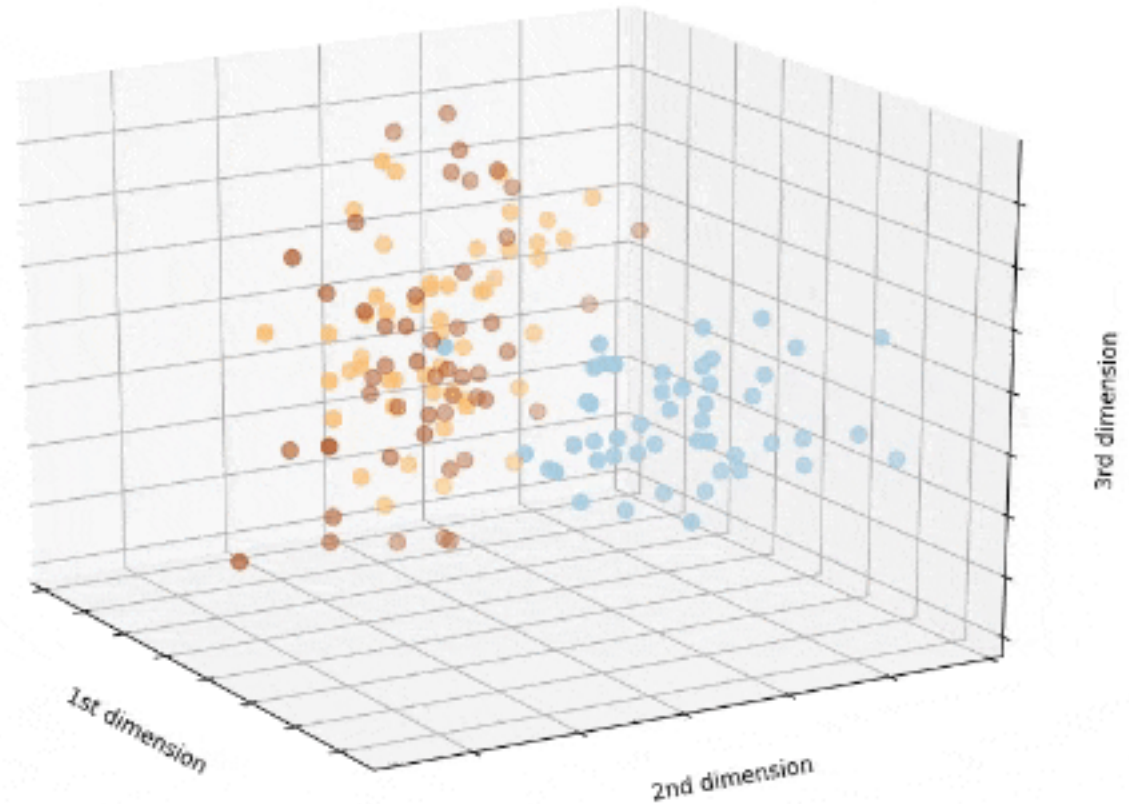
- Research refers to four acknowledged key competencies (*Roth 1971*)
- Psychological concept of competencies states that they are necessary in order to interact effectively with the environment (*White 1959*)
- One advantage of measuring key competencies is the clear intention of the theoretical framework taking into account that each participant is unique and might have different evaluation outcomes...
- ...especially when it comes to different sectors

# Methodological Approach

- 5-point scale with a total of 16 easily understandable and target group-specific questions
- Four competence dimensions consist of up to six associated questions and have been confirmed via factor- as well as reliability-analysis
- 2/3 measurement points for quantitative data
  - straight after basic adult education trainings
  - three months after basic adult education trainings

# Methodological Approach

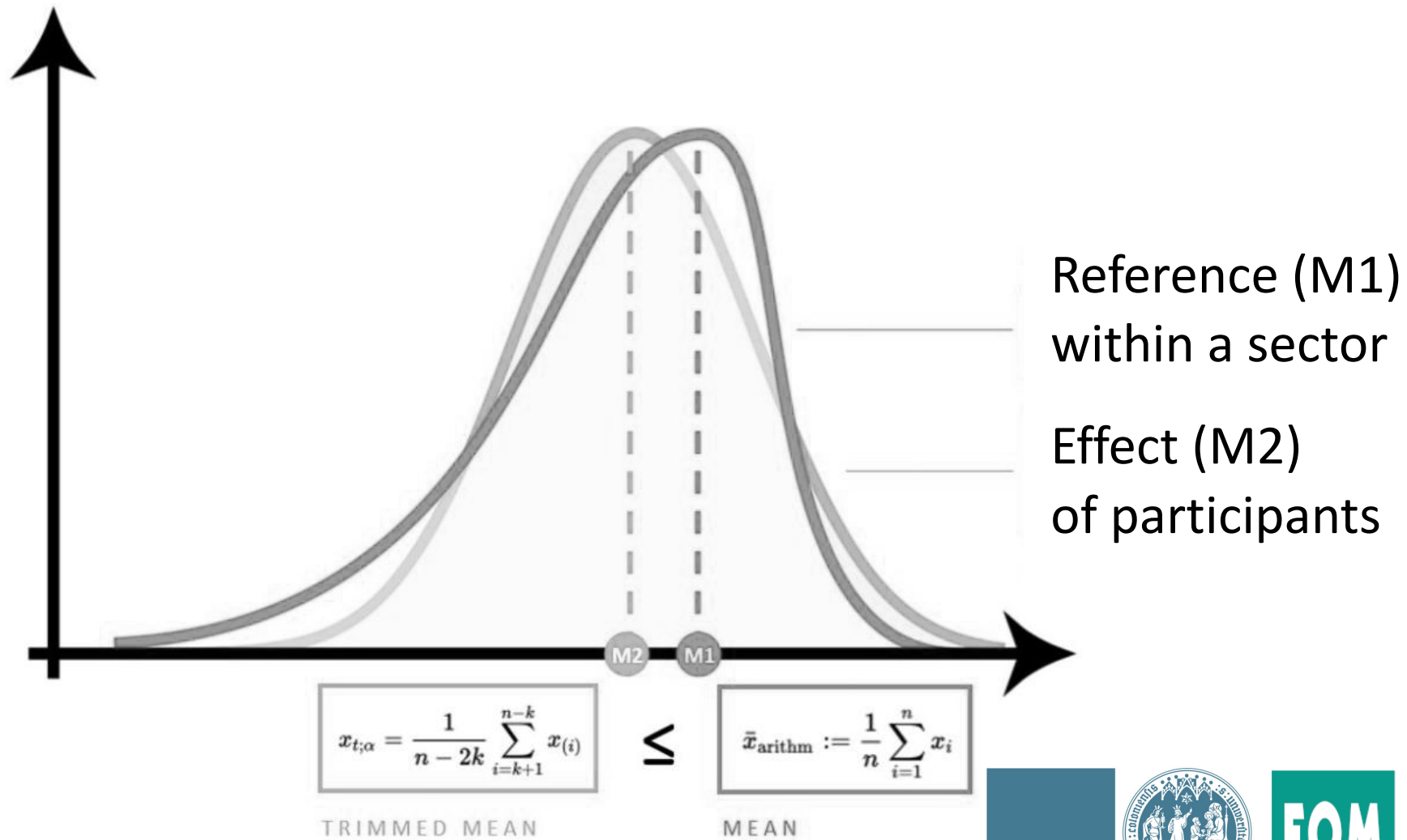
- The concept of different competencies can be highlighted within a 3-dimensional feature space
  - professional competence
  - methodological competence (●)
  - social competence (●)
  - self-competence (●)



# Methodological Approach

- Prerequisites for this are comparable participant numbers and structures, which are difficult to implement when it comes to work-oriented basic adult education trainings
- Therefore, this evaluation tool determines target group-specific competence patterns – in respect to their often low number of participants – by applying robust statistical methods
- Application of associated competence reference values
  - focusing each industry sector
  - focusing different work-oriented basic adult education trainings

# Methodological Approach



# Methodological Approach

- Effect sizes indicate a moderate positive effect when the trimmed mean values exceed the average values by  $\leq 0.10$
- Effect sizes indicate a strong positive effect when the trimmed mean values exceed the average values by  $\geq 0.11$
- However, it must be taken into account that sometimes different work-oriented basic adult education trainings have been realized within one company and that several companies can be assigned to one industry sector

# Findings

- Insights into different sectors
  - manufacturing sector (26%)
  - care sector (20%)
  - transportation sector (10%)
  - personnel service (8%)
  - logistics sector (6%)

# Findings

- More men (70%) than women (30%) are among the participants
- Average age of all participants is 36 years
- 60% of all participants learned German as their main language during childhood and youth
- 73% of all participants have a general education qualification in form of middle maturity or higher forms
- When asked about individual preferences, participants respond primarily to health, secondarily to job security, and tertiary to opportunities for education

# Findings

- Men state satisfaction levels beyond the average values of all participants and in all aspects of their workplace
- Women seem to be more concerned with
  - safety at the workplace
  - to have a say at the workplace
  - workload
  - pressure to perform
  - payment

# Findings

- Manufacturing sector:
  - reference value of 4.23 ( $T_1$  and  $T_2$ )
  - adult education trainings seem to affect the competencies of the participants at  $T_1$  when it comes to the **social** (trimmed mean of 4.39) and **self-competence** (trimmed mean of 4.40)
  - three months later, these effects shift to **professional** (trimmed mean of 4.36) and **methodological** competence (trimmed mean of 4.33)

# Findings

- Care sector:
  - reference values of 4.09 ( $T_1$ ) and 4.19 ( $T_2$ )
  - straight after the completion of the work-oriented basic adult education trainings positive effects in the **methodological** (trimmed mean of 4.10), the **social** (trimmed mean of 4.16) and **self-competence** (trimmed mean of 4.20) can be detected
  - Back in the working context of the participants, the **social** (trimmed average of 4.28) and the **self-competence** (trimmed mean of 4.49) of the participants seem to manifest themselves on a long-lasting level

# Findings

- Transportation sector:
  - reference values of 4.05 ( $T_1$ ) and 4.19 ( $T_2$ )
  - for the work-oriented basic adult education trainings aimed specifically at communication, positive effects can be observed at both measuring points, especially in the case of **social** (trimmed mean values of 4.13 and 4.30 respectively) and **self-competence** (trimmed mean values of 4.16 and 4.39 respectively)

# Findings

- Personnel services:
  - reference values of 4.05 ( $T_1$ ) and 3.71 ( $T_2$ )
  - this could be attributed to the fact that not all participants have arrived in a work context at  $T_2$
  - straight after completion of the work-oriented basic adult education trainings, there seem to be competence acquisitions in the **professional** (trimmed mean of 4.06), **social** (trimmed mean of 4.11) and **self-competence** (trimmed mean of 4.20)
  - At  $T_2$ , these effects shift towards **methodological** (trimmed mean of 3.75) and **self-competence** (trimmed mean of 3.81)

# Findings

- Logistics sector:
  - reference values of 4.59 ( $T_1$ ) and no  $T_2$  values because of data-protection
  - The reference value is exceeded only in the field of **self- competence** (trimmed average of 4.83)
  - this effect is in line with expectations, as the logistics sector has expressed the need for self-competence and the work-oriented basic adult education trainings were specifically designed to meet these needs

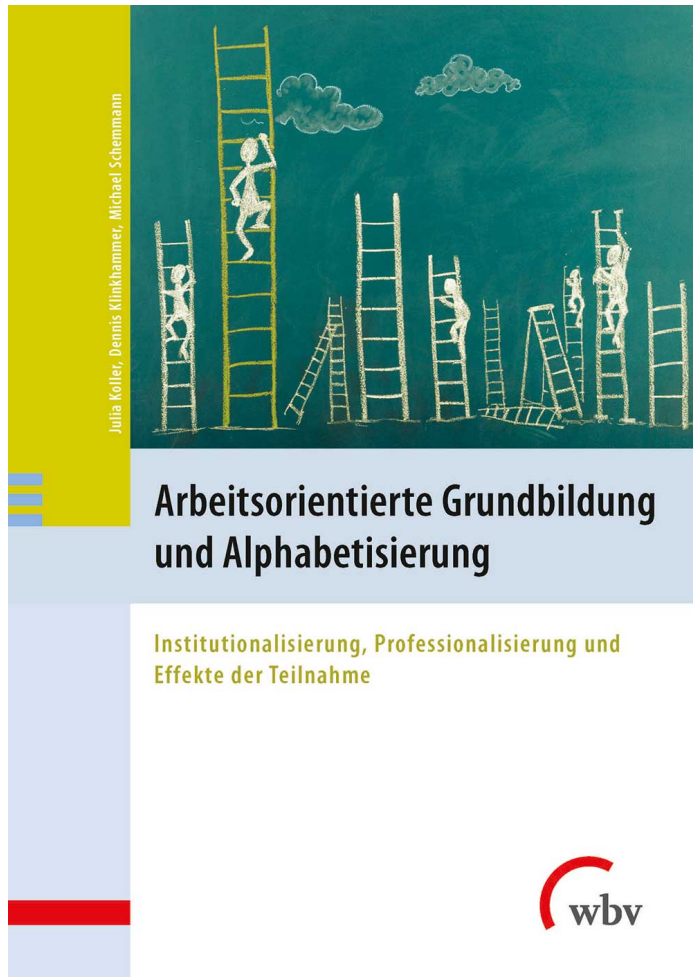
# Discussion

- As a first result, social as well as self-competence seem to profit from work-oriented basic adult education trainings in almost every sector
- This effect can expand to the professional as well as methodological competence, when the participants are back in their working routine
- It has to be mentioned that some of these effects seem to depend strongly on whether the participants can apply the key competencies in their working context or not
- This suggests a certain degree of specificity as prerequisite, when it comes to work-oriented basic adult education trainings

# The End

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# Further References and Sources



Julia Koller, Dennis Klinkhammer, Michael Schemmann (Hg):

**Arbeitsorientierte Grundbildung und Alphabetisierung**

Institutionalisierung, Professionalisierung und Effekte der Teilnahme

WBV Verlag (2019).

Artikelnummer: 6004734

ISBN: 978-3-7639-6062-0