

Institutionalised VET research

Vocational
education and
training in Germany

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1. Features of vocational education and training research

- ▶ Comparatively young field of research
- ▶ Legally established within the Vocational Training Act (Berufsbildungsgesetz, BBiG)
- ▶ Heterogeneous research area:
 - ▶ Interdisciplinary nature
 - ▶ Integration of different academic disciplines
 - ▶ Educational science
 - ▶ Sociology
 - ▶ Economics
 - ▶ Labour market research
- ▶ Topics selected in line with needs of business, VET practice and VET policy
- ▶ Application focus (education practice, policy and governance)
- ▶ Focus on a range of target groups:
 - ▶ Pupils
 - ▶ Trainees
 - ▶ Vocational education and training staff
 - ▶ Vocational schools
 - ▶ Companies
 - ▶ Policymakers
- ▶ Cooperation and networking: cooperation between research institutions, educational institutions and industry, international cooperation
- ▶ Results are publicly available





2. Why VET research?

Relevance to education system

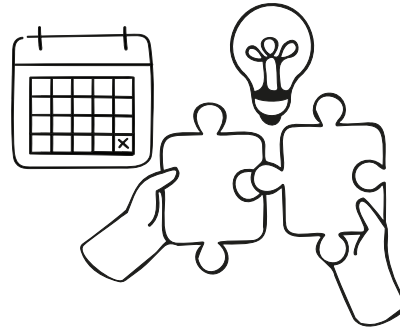
- ▶ Quality [and attractiveness] of vocational education and training
- ▶ Social participation

Technological development

- ▶ Artificial intelligence
- ▶ Media landscapes etc.

Changes in society

- ▶ Demographic trends
- ▶ Migration etc.



Policymakers, business and social partners require information on developments in vocational education and training, the education system and the labour market to be able to **respond to challenges** and **regulate the VET in an evidence-based way**. Research and development are mutually dependent in this respect.

Economic relevance

- ▶ Competitiveness
- ▶ Skilled workers etc.

Globalisation

- ▶ International perspective
- ▶ Skilled worker migration, recognition etc.

Changes in the world of work

- ▶ Need for new occupational profiles
- ▶ Flexibilisation of work etc.



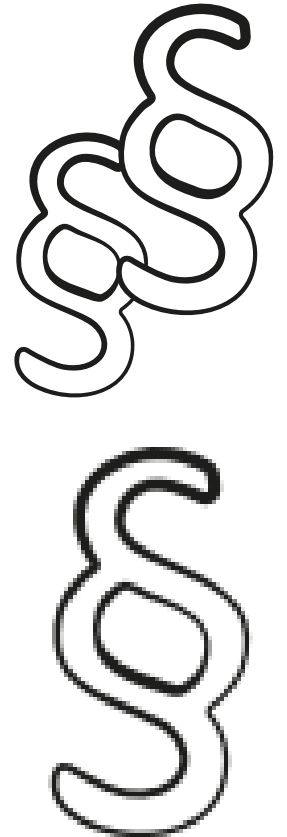
3. Statutory general conditions

The Vocational Training Act (BBiG) forms the legal basis

BBiG, (2020)*, Section 84: Objectives of vocational education and training research:

“Vocational education and training research must...

1. ... clarify the fundamentals of vocational education and training,
2. ... track domestic, European and international developments in vocational training,
3. ... identify standards for the contents and objectives of vocational education and training,
4. ... pave the way for further developments in the field of vocational education and training to meet changed economic, societal and technical requirements,
5. ... further the development of instruments and procedures for the provision of vocational training and promote the transfer of knowledge and technology.”



* Vocational Training Act as published in the official notification of 4 May 2020 (BGBl I p. 920), last amended by Article 2 of the law of 19 July 2024 (BGBl. 2024 I p. 246).





4. VET research stakeholders in Germany

Research institutes (private and public)

Examples:

- ▶ Federal Institute for Vocational Education and Training (BIBB)
- ▶ Institute for Employment Research at the Federal Employment Agency (IAB)
- ▶ Research Institute for Vocational Education and Training (f-bb)
- ▶ Institute for In-company Training (IFBB)
- ▶ Institute for Educational Quality Improvement (IQB)

Federal state institutes (esp. development of teaching and school-based staff training at vocational schools)

Examples:

- ▶ State institute for school quality and education research (ISB)
- ▶ Lower Saxony federal state institute for school quality improvement (NLQ)
- ▶ Hamburg federal state institute for teacher training and school development (LI-Hamburg)
- ▶ Saxony-Anhalt federal state institute for school quality and teacher training (LISA)
- ▶ Bremen federal state Institute for schools (LIS)

Institutes of higher education and universities

Examples:

- ▶ Research Institute for Vocational Education and Training in the Crafts Sector
- ▶ Department of Vocational Education Studies at Osnabrück University
- ▶ FernUniversität in Hagen (state distance-learning university) Institute of Educational Science and Media Research, Chair of Lifelong Learning
- ▶ Institute of Vocational Education, Work and Technology (biat) at Europa-Universität Flensburg

Associations and foundations

Examples:

- ▶ Division for Vocational Education at the German Educational Research Association (GERA)
- ▶ Robert Bosch Stiftung
- ▶ Bertelsmann Stiftung
- ▶ GAB München – Association for Research & Development in Vocational Training and Occupations

The various stakeholders often work together in and on research projects



5. International comparative VET research

The aim of comparative vocational education and training research is to describe, understand and explain the features and principles of vocational education and training in different national and cultural contexts.

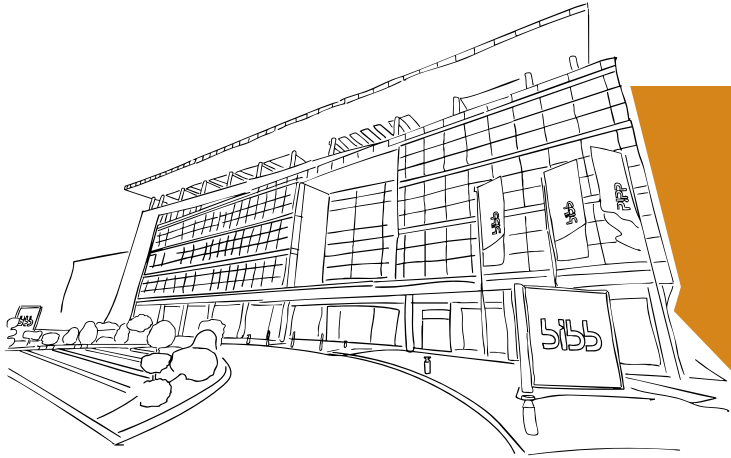
Examples:

UNESCO-UNEVOC	CEDEFOP	International Handbook of Vocational Education and Training (IHBB)
“TVET Country profiles” provide extensive information on VET worldwide. This includes, for example ▶ VET policy objectives ▶ Vocational education and training system ▶ Financing ▶ Role of training personnel ▶ Individual projects of respective countries	▶ European Center for the Development of Vocational Training (CEDEFOP) “VET in Europe” database: current and easily accessible information on the respective national VET systems in Europe ▶ detailed national reports, skills forecasts, academic analyses and recommendations on trends and development requirements in European vocational education and training	▶ Academic country studies on global VET systems, available since 1995 ▶ BIBB has been publishing the IHBB since 2010 and making country studies available in the BIBB VET Repository since 2020





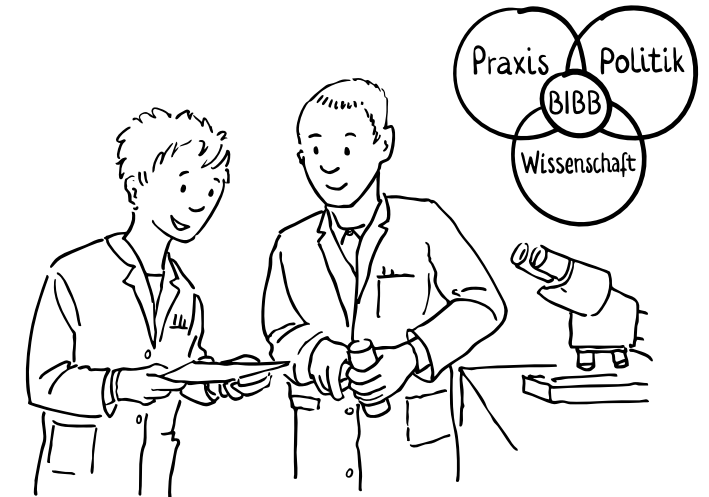
6. VET research at BIBB



Section 90 of the Vocational Training Act assigns the Federal Institute for Vocational Education and Training (BIBB) with the task of contributing to vocational training research by means of scientific research.

VET research is characterised by discourse at the interface between science, politics and practice and ...

- ▶ ... its purpose is to further academic understanding
- ▶ ... is focused on questions which are interest to vocational education and training practice and policymaking
- ▶ ... creates the basis for the modernisation of occupations and for innovation in vocational education and training



6. VET research at BIBB

The basis of VET research conducted by BIBB comprises medium-term research programmes with a duration of several years as well as annual research programmes.

Current topic clusters (2019–2025):

- ▶ digital transformations – future of vocational education and training and work
- ▶ company decisions and actions – factors influencing company training and recruitment
- ▶ work-based learning – conditions, diagnostics and support
- ▶ vocational orientation and transitions – integration into training and work
- ▶ occupational segmentation in training – characteristics and functionalities
- ▶ regulation-related structuring and governance of vocational education and training





6. VET research at BIBB

- ▶ BIBB's vocational education and training research work is conducted in the form of projects.*
- ▶ There is a distinction between:
 - ▶ **Research projects** financed from BIBB's core budget – the institution's "own research" (in accordance with Section 90(2), sentence 2 BBiG) and
 - ▶ **Research projects** implemented on the basis of instructions and contracts (in accordance with Section 90(2) sentence 3 BBiG) and by attracting external funding outside of the federal administration (in accordance with Section 90(4) BBiG)
- ▶ A distinction is also made between **development projects** and **academic research services**.
- ▶ The development of the institute's own research programmes takes place within the scope of a concentrated discussion process, in which the BIBB committees are involved (= different VET stakeholders in Germany)

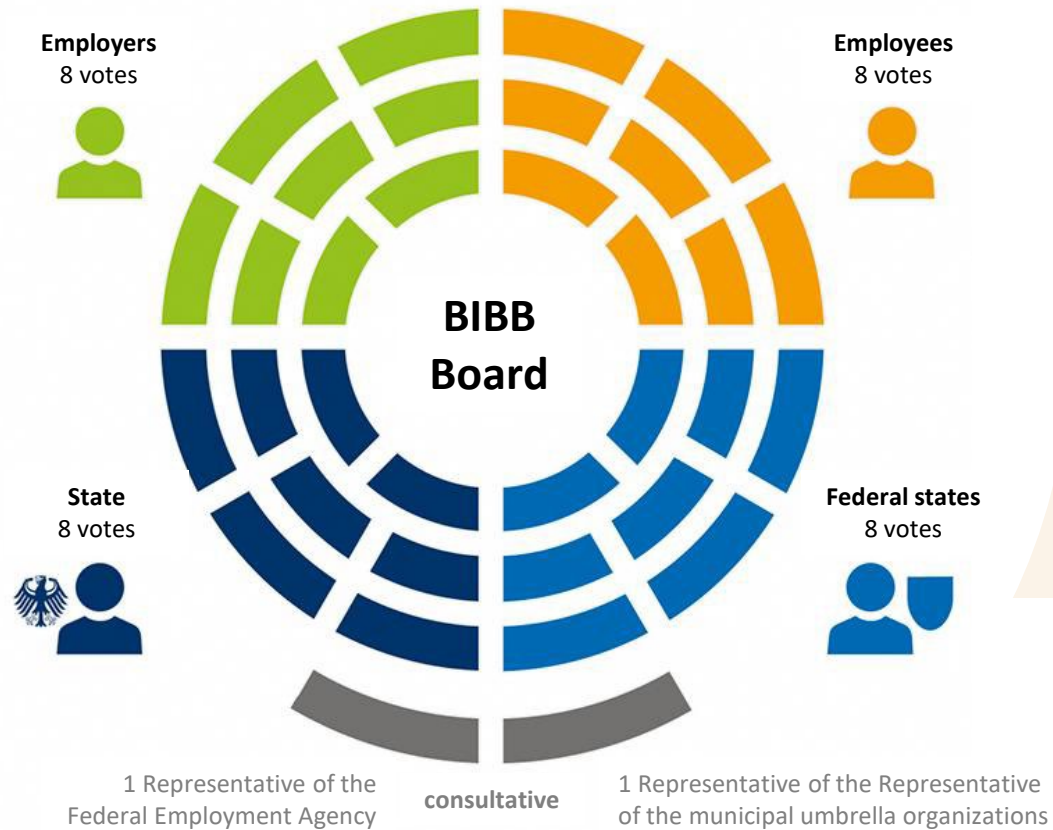
* Source: 2024 Annual research programme of the Federal Institute for Vocational Education and Training. 2024.





6. VET research at BIBB

BIBB committees involved in research planning



Board:

adopts the medium-term research programmes and annual research programmes

two sub-committees for vocational training research at BIBB and for the annual consultations on the draft of vocational training report

Source: BIBB: <https://www.bibb.de/en/463.php>





6. VET research at BIBB

BIBB committees involved in research planning

Research Council:

advises both of BIBB's executive bodies – the Board and the president – by means of written opinions on and recommendations for BIBB's research work

evaluates the scientific quality of research projects and the scientific sustainability of the research programmes

consists of eleven recognized specialists in the area of vocational training research from Germany and abroad



Employers Government Federal States Employees Experts

Source: BIBB: <https://www.bibb.de/en/463.php>





6. VET research at BIBB

Surveys and statistics*

Vocational education and training research at BIBB uses a wide range of qualitative and quantitative research methods. These include regular empirical surveys.

BIBB surveys

- ▶ Training allowances ([link](#))
- ▶ BIBB establishment panel on training and competence development ([link](#))
- ▶ BIBB survey of newly concluded training contracts as of 30.09. ([link](#))
- ▶ BIBB surveys on the costs and benefits of continuing professional education for individuals ([link](#))
- ▶ BIBB Expert Monitor ([link](#))
- ▶ BIBB surveys of the costs and benefits of company-based vocational education and training ([link](#))
- ▶ BIBB Nursing Panel ([link](#))
- ▶ BIBB School Leaver Surveys ([link](#))
- ▶ BIBB Transition Studies, 2006 and 2011 ([link](#))
- ▶ Reference company system (RBS) ([link](#))

*Some of the sources are only available in German.





6. VET research at BIBB

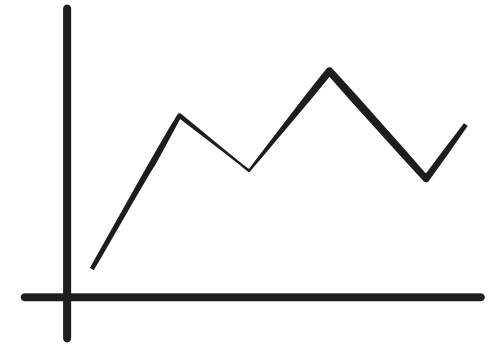
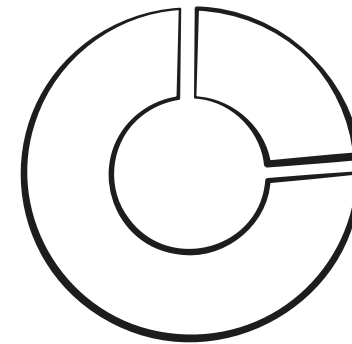
Surveys and statistics*

BIBB surveys in cooperation with partners:

- ▶ Adult Education Survey (AES) ([link](#))
- ▶ Recognition Monitoring ([link](#))
- ▶ BA/BIBB applicant surveys ([link](#))
- ▶ BIBB/BAuA Labour Force Survey ([link](#))
- ▶ Continuing Vocational Training Survey (CVTS) ([link](#))
- ▶ Continuing Training Monitor ([link](#))

Official statistics

- ▶ The Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States (survey 31.12): Trainee data ([link](#))
- ▶ iABE – Integrated VET reporting ([link](#))



*Some of the sources are only available in German.





6. VET research at BIBB

Fostering young talent

The fostering of young academic research talent is a strategic objective of vocational education and training research at BIBB.

BIBB has a range of different programmes in place to support this:

- ▶ Graduate support
- ▶ Young talent groups
- ▶ Dissertation projects (in cooperation with universities)
- ▶ Training programme
- ▶ Information for students





6. VET research at BIBB

BIBB Data Report to accompany the federal government's Report on Vocational Education and Training

- ▶ Key information sources and data basis for the federal government's Report on Vocational Education and Training submitted by the Federal Ministry of Education and Research (BMBF)
- ▶ Annual information and analysis on initial and continuing vocational education and training since 2009
- ▶ Provides an overview of federal government and federal state programmes for supporting vocational education and training and provides information on international indicators and benchmarks
- ▶ The report includes differentiated presentations of indicators and time series, focuses on thematic priorities and summarizes key information on the different topic areas of initial and continuing vocational education and training.
- ▶ In order to prepare the report, primary research is conducted (e.g. BIBB survey of newly concluded training contracts as of 30 September, BIBB school leaver survey, BA/BIBB applicant survey, PROSIMA – econometric forecast and simulation model of the training system) and research contracts for special analyses are awarded to external institutions.





7. VET research at BIBB – project examples

Accompanying research for ASCOT+ (Technology-based Assessment of Skills and Competences in VET)



- ▶ Time period 2019–2023
- ▶ BMBF funded
- ▶ **Aim:** develop digital learning and measurement instruments for the competencies of trainees and trial these in practice

Coordination office was BIBB

- ▶ Transfer findings from ASCOT+ into research and practice (e.g. into teaching and learning processes and into regulatory work)
- ▶ Technical, scientific and administrative support for funded projects
- ▶ Public relations
- ▶ **Transfer of knowledge** was a central common theme in ASCOT+ and was considered in project design.
- ▶ The result is a wide range of digital measurement instruments, teaching and learning offers and training materials which can be used by interested parties under a free licence.



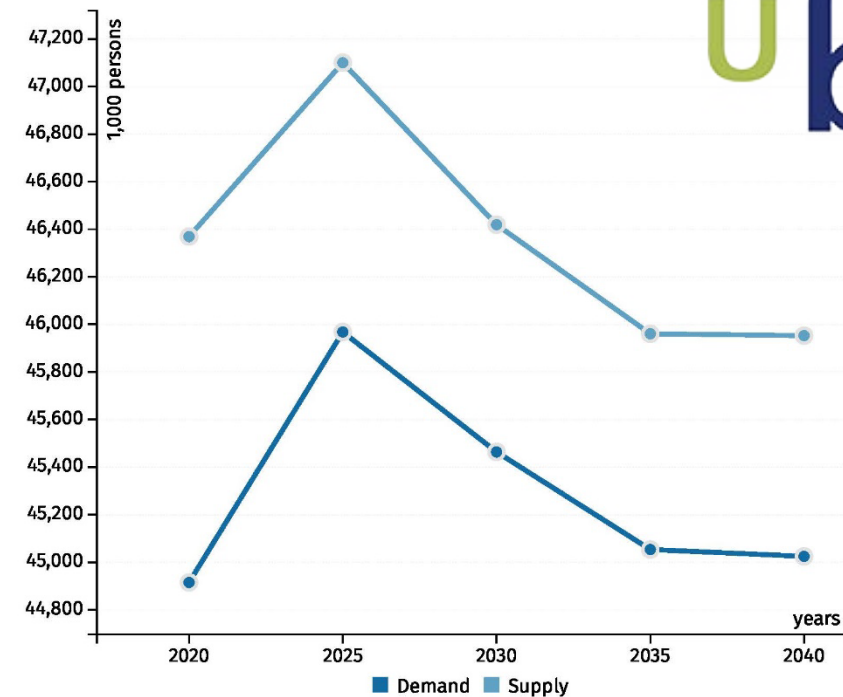


7. VET research at BIBB – project examples

QuBe project – qualifications and occupations in the future

- ▶ run under joint leadership of the Federal Institute for Vocational Education and Training (BIBB) and the Institute for Employment (IAB) in collaboration with the Institute of Economic Structures Research (GWS).
- ▶ a long-term overview of the likely development of labour demand and supply in terms of qualifications and occupations to the year 2040
- ▶ differentiated by 141 occupational groups
- ▶ projection results can be selected, presented and downloaded by different occupational groups, qualifications, requirement levels, persons and work volume.

Time series – Persons



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8. Further examples of institutional VET research

German Institute for Adult Education (DIE)

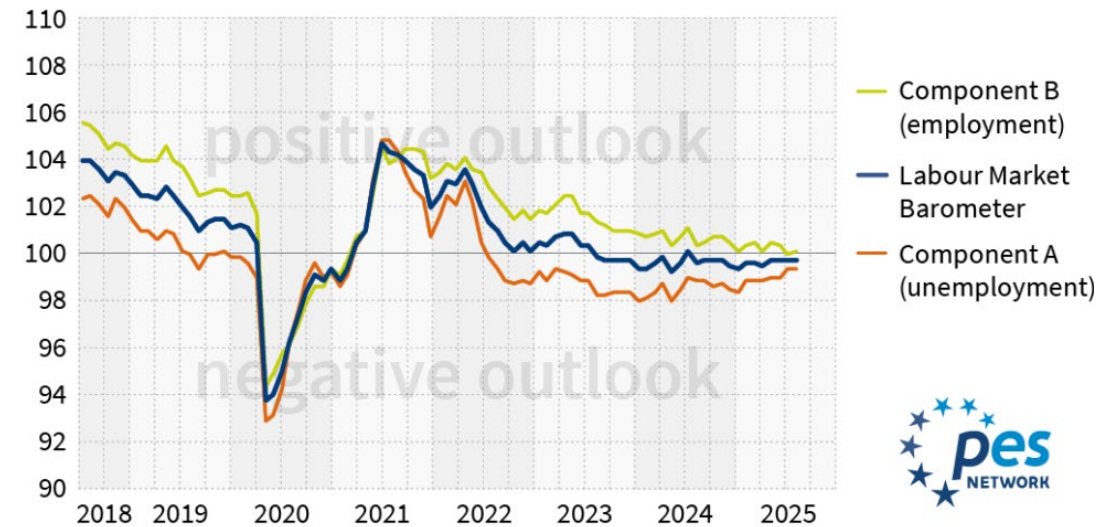
- ▶ Research into continuing education and lifelong learning
- ▶ Projects for improving continuing education systems and offers

Institute for Employment Research (IAB):

- ▶ Research Institution of the Federal Employment Agency (BA)
- ▶ Labour market research focused on vocational education and training
- ▶ Example: IAB Labour Market Barometer, studies on labour market integration of graduates, and relationships between training processes and labour market opportunities
- ▶ BA as well as quantitative and qualitative surveys form the empirical basis

European Labour Market Barometer until August 2025

Point values on a scale from 90 (very bad outlook) to 110 (very good outlook); 100 = neutral



Source: European Network of Public Employment Services, Institute for Employment Research (IAB). © IAB



8. Further examples of institutional VET research

Research Institute for Vocational Education and Training (f-bb):

- ▶ Implementation of design and transfer projects for vocational education and training
- ▶ Preparation of case studies
- ▶ Empirical surveys, and evaluations,
- ▶ Scientific support for funding programmes and pilot projects.

Examples of current studies:

▶ Study on the inward and outward migration of EU citizens

▶ Study “Constantly changing demands – how companies and employees are preparing for the future, together”

▶ Piloting an evaluation of “Trialling working worlds of the future” at the Ministry for Infrastructure and Digital Affairs

▶ Future of digital participation for people with disabilities – opportunities, risks and potential solutions (digitaleTeilhaBe)





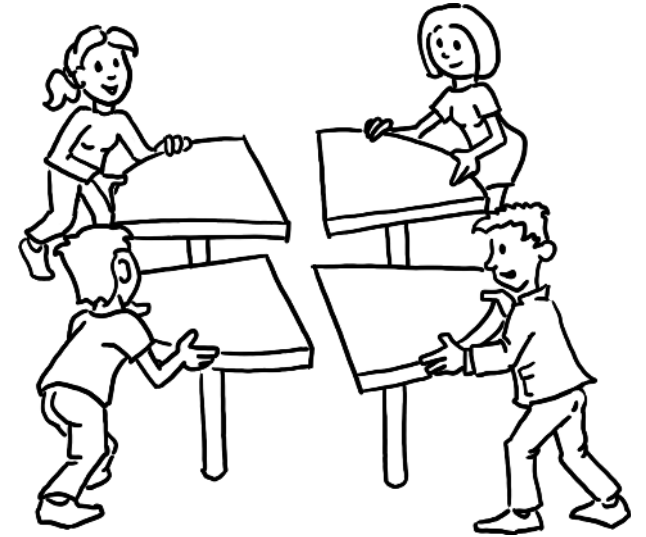
9. Cooperation and networking in VET research

Cooperation between the different research stakeholders increases the potential of vocational education and training research

- ▶ Creation of synergies and interdisciplinary discourse
- ▶ Different disciplines consider the research topic from different perspectives, asking different questions and using different methodological approaches
- ▶ Financing from a range of sources can be used for research projects

International cooperation in vocational education and training research generates new perspectives, research questions, development work and consultancy

- ▶ BMBF funding initiative for the internationalisation of vocational education and training from 2017
- ▶ BIBB cooperates with numerous international partner institutions.



9. Cooperation and networking in VET research

The Federal Working Group on Vocational Education Research (AGBFN) is a voluntary association of scientific institutions:

BIBB

Institute for Employment Research
(IAB)

The educational institutes of the
federal states



Division for Vocational Education
of the German Educational
Research Association

Publicly and privately funded
research institutes

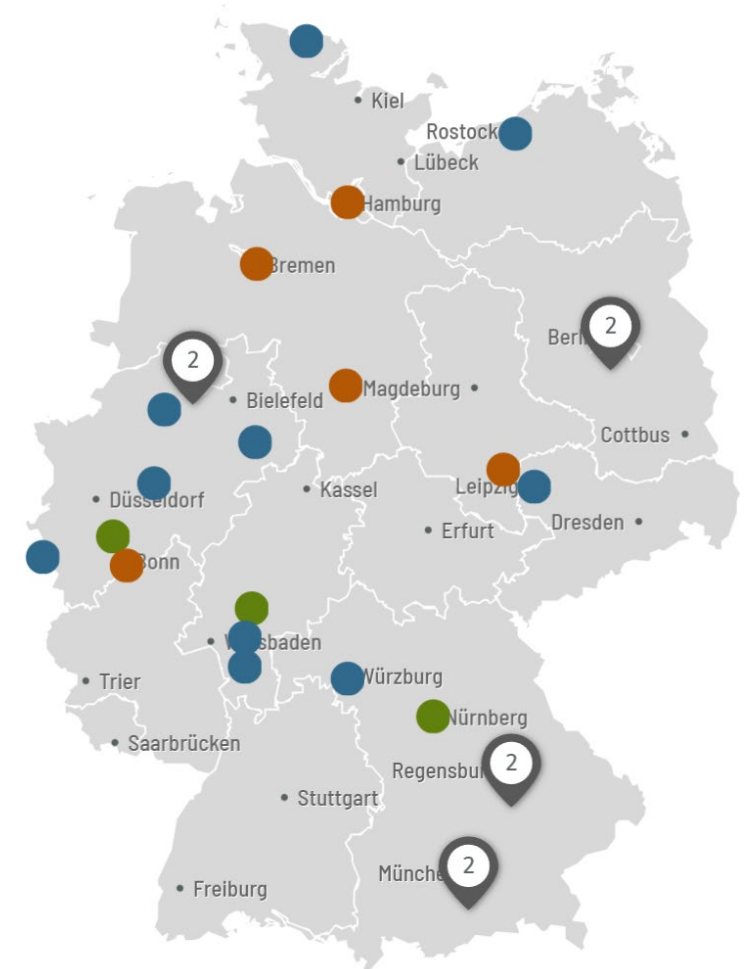




9. Cooperation and networking in VET research

AGBFN – Partners include:

- ▶ BIBB:
- ▶ State Institute for school quality and education research (ISB) Munich
- ▶ Technical University of Darmstadt, Institute of General and Vocational Education, area of study of Vocational Education
- ▶ Research Institute for Vocational Education and Training (f-bb) Nuremberg
- ▶ Hamburg federal state institute for teacher training and school development (LI-Hamburg)
- ▶ Lower Saxony state Institute for Quality Development in Schools (NLQ)
- ▶ GEBIFO – Society for the Promotion of Educational Research and Qualification mbH Berlin
- ▶ cevet – Centre for vocational education and training (Paderborn)
- ▶ University of Rostock, Institute for Vocational Education
- ▶ Saxony-Anhalt federal state institute for school quality and teacher training (LISA)
- ▶ Bremen federal state Institute for schools (LIS)
- ▶ RWTH Aachen University, Academic and Research Department Technical Didactics of Structural Engineering
- ▶ German Economic Institute, Research Unit Vocational Education and Professionals
- ▶ Goethe University Frankfurt, Faculty 02 Economics and Business, Chair of Business Ethics and Business Education
- ▶ Training Institute of the Hesse Economy – Research unit (BWHW)
- ▶ University of Würzburg – Chair of Special Education V
- ▶ Institute of Vocational Education, Work and Technology (biat) at Europa-Universität Flensburg
- ▶ University of Osnabrück – Institute for Health Research and Education, Department of Didactics of Human Service Professions
- ▶ FernUniversität in Hagen – Institute of Educational Science and Media Research, Chair of Lifelong Learning
- ▶ Scientific Network for Career Guidance (WiN BO)
- ▶ GAB München – Association for Research & Development in Vocational Training and Occupations
- ▶ Institut für Innovation und Technik [Institute for Innovation and Technology] in VDI/VDE Innovation + Technik GmbH
- ▶ Verein für sozialwissenschaftliche Beratung und Forschung e. V. [Social Science Consultancy and Research Association]
- ▶ Institute of Social Science Consultancy (ISOB GmbH)
- ▶ Osnabrück University – Department of Vocational Education Studies
- ▶ Leipzig University – Institut für Wirtschaftspädagogik [Institute of Business Education]





9. Cooperation and networking in VET research

Arbeitsgemeinschaft Berufliche Bildung (AG BB) [Vocational education and training working group]

- ▶ has been organising the “Hochschultage Berufliche Bildung” university conference on vocational training every two years since the 1980s – conference venue alternates between universities
- ▶ The aim of the university conference is to promote discourse between research, policymakers and practice
- ▶ BIBB is a founding member of the AG BB and is active on its Board.

Centre for Vocational Education and Training (CeVet) at Paderborn University

- ▶ International centre of excellence for research and for professionalisation in addressing the challenges relating to all aspects of vocational education and training
- ▶ Involvement of stakeholders with different perspectives of the problem in question.
- ▶ Network comprising national and international partners from companies, education and training policymaking, training institutions and other institutes
- ▶ Main areas of research include career orientation, professionalisation and support for vocational education and training practice





10. Use of research findings

Results of vocational education and training research should be **freely available**:

- ▶ enables scientific discourse
 - ▶ increases the transparency and clarity of research results
 - ▶ facilitates broad-based and rapid dissemination as well as visibility
- ▶ A freely available description of research approaches and methodology means that research projects are easier to understand, adapt and replicate in other countries/training systems

Example: **www.bibb.de/en**

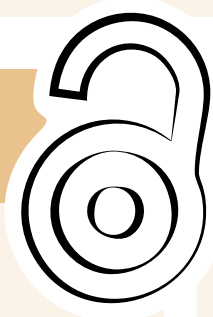
Databases

- ▶ Research Data Centre metadata portal
- ▶ Database of training allowances based on collective agreements

Specialist publications, free of charge

- ▶ VET Repository
- ▶ BIBB Data Report to accompany the Report on VET

BIBB adopted an Open Access policy in 2011 in order to support the dissemination of vocational education and training research results free of charge in accordance with the Open Access principle.



Example: **BIBB specialist journal**

“Vocational Training in Research and Practice” (BWP)

Published four times a year. Academic findings and practical experience of current issues in vocational education and training are published here. Each issue has a **thematic focus**, e.g.:

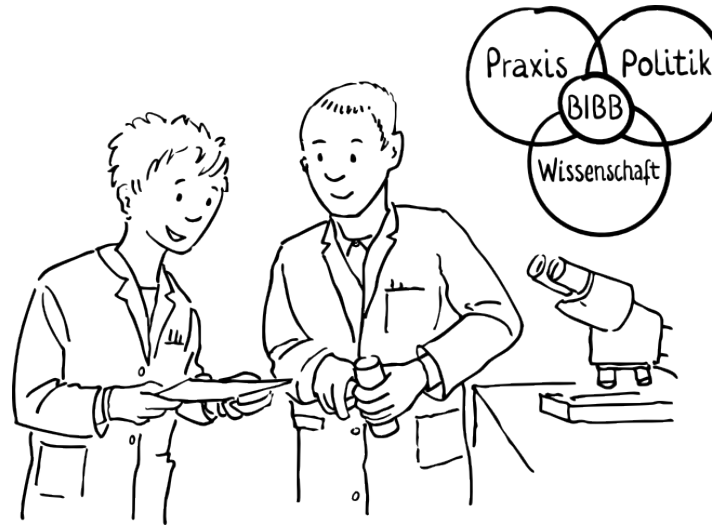
- ▶ Labour market and vocational education and training (BWP 3/2024)
- ▶ Migration and integration (BWP 2/2024)
- ▶ Artificial intelligence (BWP 1/2024)



11. Summary

Stakeholders

- ▶ The variety of stakeholders in vocational education and training research contributes to the quality of research and helps with the ongoing modernisation of VET and with making it competitive.
- ▶ Synergy effects resulting from partnerships, exchange and joint projects



Government

- ▶ facilitates institutionalised vocational education and training research by providing a statutory framework, funding and by awarding contracts

Research results

- ▶ are publicly available
- ▶ are used in the dialogue between government, business and social partners
- ▶ help when making the choice of initial and continuing VET measures in the transition into the employment system
- ▶ justify training planning decisions and help to prepare these



Further information

This presentation, further presentations and information on German vocational education and training and international VET cooperation are all available on our website at:

www.govet.international/en

Sources*

- ▶ BIBB/VET research ([link](#))
- ▶ BIBB Data Report ([link](#))
- ▶ KMK ([link](#))
- ▶ BMFTR Data Portal ([link](#))
- ▶ Destatis statistics on VET ([link](#))
- ▶ Institute for Employment Research ([link](#))
- ▶ Research Institute for Vocational Education and Training (f-bb) ([link](#))

Further information on the Internet

- ▶ AGBFN (Vocational Education and Training Research Network) ([link](#))
- ▶ CeVet ([link](#))
- ▶ BIBB VET Repository ([link](#))
- ▶ BIBB specialist publications ([link](#))
- ▶ BIBB Research Data Centre ([link](#))
- ▶ BIBB specialist journal BWP (Vocational Training in Research and Practice) ([link](#))

*Some of the sources are only available in German.



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