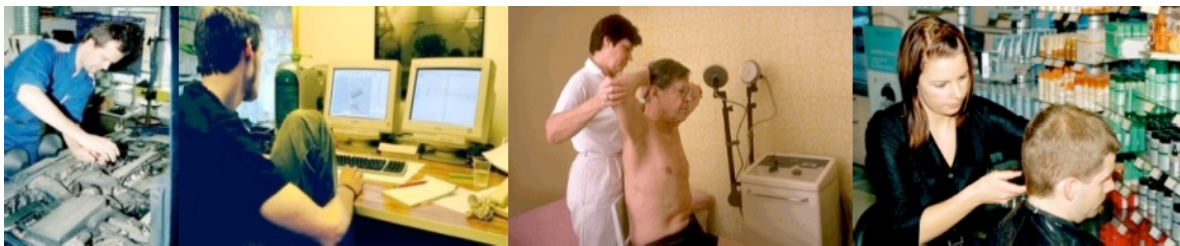


X Stockholm International Conference & Research
Workshop on VET
May 17-19, 2026

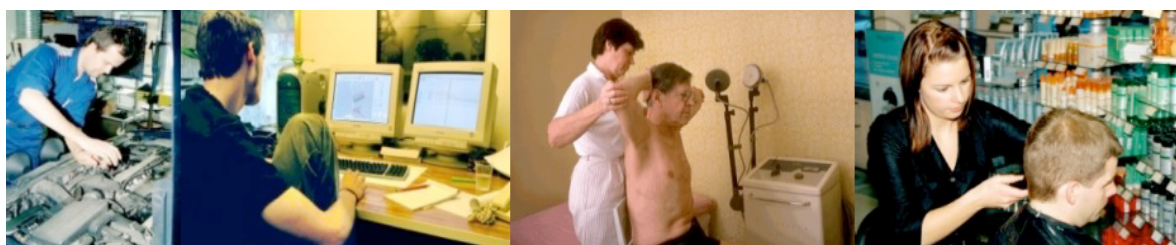
Book of Abstracts



Research Group VETYL (Vocational Education & Training/Yrkeskunnande och Lärande), Department of Education, Stockholm University

Professor Lázaro Moreno Herrera, lazaro.moreno@edu.su.se
Professor Marianne Teräs, marianne.teras@edu.su.se
Senior Lecturer Janne Kontio, janne.kontio@edu.su.se

X Stockholm International Conference of Research in Vocational Education and Training May 17-19, 2026



European Research Network Vocational Education and Training (VETNET)
*Research Group VETYL (Vocational Education & Training/Yrkeskunnande och
Lärande), Department of Education, Stockholm University*

PROGRAMME

Conference venue: M/S Viking Glory

X Stockholm International Conference of Research in Vocational Education & Training. May 17-19, 2026

Sunday, May 17

18.30 19.40	Check-in at Viking Terminal, Stadsgårdsterminalen Boarding the M/S Viking Glory
20.00-20.30 Room Auditorium	Conference Opening, Welcoming Address Organizing Committee Professor Lázaro Moreno Herrera, Professor Marianne Teräs, Dr. Janne Kontio
20.30-20.40 20.40-22.00	Accommodation in cabins Dinner
From 22.00	Get together & Social events

Monday, May 18

From 06:30	Breakfast
08.45-09.00	Introduction to day 1 Auditorium
09.00-10.00	Keynote 1: Professor Emerita, Ph.D., Viveca Lindberg, Stockholm University
10.00-10.30	Coffee Break
10.30-12.00	PARALLEL SESSION 1: VOCATIONAL DIDACTICS, KNOWING AND PEDAGOGY Room 1 Aija Laaksonen. <i>Study ability, special educational needs, and workplace learning in VET</i> Christiane Klatt et al. <i>Didactically intended work-analyses as a tool for lesson planning in the vocational field of nutrition and home economics</i> Oscar A Aliaga, Pradeep Kotamraju. <i>Dispelling myths: A new look at students' vocational education in the United States</i> Chair: Oscar A Aliaga Room 2 Vasiliki Papathanasiou, Ekaterini Zafiri. <i>Level-up to responsibility: A value-based framework for student motivation, well-being, and life skills in secondary education</i> Sean Manley, Susanne Peters: <i>Competence profiles of vocational education teachers and trainers: A cross-national analysis of Germany, Ireland using PIAAC data</i> Franz Kaiser et al. <i>Critical bildung and theme centered interaction as concepts to develop "intrinsic resistance" in vocational education</i> Chair: Franz Kaiser Room 3 Kara Chan, Shing Chi Ho: <i>Company visit and career mentorship as work-integrated learning experience: Perspectives from high school students</i> Kara Chan et al. <i>"insights into vocational education for the creative media industry: A three-year-study evaluating programme effectiveness among Hong Kong high school students</i> Maggie Fung et al. <i>Beyond classrooms: Art tech voyage foster proactive learning in Hong Kong higher diploma students</i> Chair: Kara Chan Room 4 Håkan Johansson, Sara Lenninger. <i>"Do you have to know how to use all drawings?": An ethnographic exploration of construction drawing practices</i> Magdolna Benke: <i>Knowledge utilisation and empowerment in the workplace</i> Ann Karin Sandal et al. <i>Assessment as boundary object in VET</i> Chair: Ann Karin Sandal Room 5 Thomas N. Jambor <i>Maintenance method – implementation opportunity for action-oriented teaching in vocational schools</i>

	Christin Siegfried et al. <i>Ethical conflicts in vocational education and training – ideas and findings for the further development of VaKE</i> Erika E. Gericke. <i>The influence of educational traditions on teaching practices and pedagogy – using the example of English and German vocational schoolteachers for car mechatronics</i> Chair: Erika E. Gericke
12:00-13.20	Lunch
13.30-15.00	PARALLEL SESSION 2 VET SYSTEMS AND POLICIES Room 1 Juan Carlos Diaz Guevara, Rosalba Genoveva Ramírez García: <i>The National College of Technical Education in Mexico: a dual education model</i> Marko Lucic, Teo Matkovic: <i>Roll with the changes: Evolution of IVET participation amidst COVID, demographic decline and changing employment structure in the context of proliferating EU VET agenda</i> Andrea Laczik, Dana Dabbous: <i>Raising of participation age in England: Post-16 provision for those who do not take the academic route</i> Chair: Andrea Laczik Room 2 Alexander M. Esser, Jens Dörpinghaus: <i>Detecting sustainability-related terms in German VET documents</i> Hunink Claudia: <i>A question of subject position in the social world? – The value of formal (dual) vocational education and training in Mexico from the perspective of relevant stakeholders</i> Uwe Elsholz: <i>Developing a Ph.D. professional in Germany – insights from an international overview</i> Chair: Uwe Elsholz Room 3 Daiana Huber: <i>Ecosystemic vocational excellence: A multi-project European experiment in competence-based professionals' learning experiences</i> Maria Tugores-Ques et al.: <i>Pathways and specialization choices in intensive dual VET</i> Michael Gessler: <i>National Hydrogen Workforce Studies and Just Transition: A Comparative Framework and Typology Across 13 Countries</i> Chair: Michael Gessler Room 4 Presha Ramsarup: <i>Understanding the complexity around a 'demand-led' approach to skilling for the green transition</i> Thomas Reiser et al.: <i>Linking vocational archive data using occupations and education: Historical insights and contemporary applicants</i> Susanne Peters, Lisa Meyne: <i>Carrers@steel: Addressing European industrial transformation through modular vocational education</i> Chair: Susanne Peters Room 5 Hon-wing Hui: <i>Examining the issues in implementing secondary school vocational and professional education policies in Hong Kong through the advocacy of school-based vocational training programme</i> Karen O'Reilly-Briggs: <i>Disrupting Australia's vicious VET circle: towards a sustainable VET school teaching workforce</i> Markus Maruer, Per Andersson: <i>Revocationalising vocational educational training: Comparing the cases of Sweden and Switzerland</i> Chair: Markus Maruer
15.00-15.20	Coffee break
15.20-16.50	PARALLEL SESSION 3 VET SYSTEMS AND POLICIES Room 1 Lucas Trutwin et al.: <i>Does dual VET buy more time at work? Evidence from Germany and Switzerland to labor market experience</i> Oriol Homs et al.: <i>Integrated VET Centres in Spain: A strategic institutional reform to strengthen VET governance and responsiveness</i> Christian Imdorf et al.: <i>Dual apprenticeship transfer to Bulgaria: what role(s) do plural international stakeholders play?</i> Chair: Christian Imdorf Room 2 Jens Dörpinghaus, Michael Tiemann: <i>Historical vocational education transformations and contemporary AI</i>

	<i>curriculum development: lessons from 19th century Germany</i> Sandra D' Agostino, Silvia Vaccaro: <i>Challenging the unequal access of adults to VET</i> Stephanie Allais, Simon McGrath <i>Critiquing the Global VET toolkit</i> Chair: Stephanie Allais Room 3 David Jan: <i>Why do evaluators involve in practical examinations: opportunism or altruism?</i> Sarah Batt-Williams: <i>The historic legacy of veterinary nursing education</i> Mixue Li: <i>The future of work, youth skills and VET in times of uncertainty and crisis from perspectives of different actors: policy, local employers, TVET lecturers and students</i> Chair: Mixue Li Room 4 Stefan Udelhofen: <i>On international comparisons and national legitimization strategies of VET policies in the German Democratic Republic (1969-1989)</i> Klein Paula et al: <i>E-learning technologies for professional development: vocational teachers use and acceptance</i> Hubert Ertl, Nina-Madeleine Peitz: <i>Innovating Vocational education and training – creating permeability. A German perspective (based on the InnoVET programme)</i> Chair: Nina-Madeleine Peitz Room 5 Symposium: Migration and skill development Amir Radfar: <i>Refugee inclusion in work-based learning at tertiary level: Exploring opportunities and barriers in Kenya and Ethiopia</i> Paolo Nardi, Emilio Dogliani: <i>From vulnerability to agency: Inclusive VET practices support migrant youth in Europe</i> Helen Dempster, Marcel Ricou: <i>Linking labour migration and skill development</i> Discussant: Marianne Teräs Room 6 Symposium: TVET in Malaysian context Haryanti Mohd Affandi, et al: <i>Technical and Vocational Education and Training (TVET) Ecosystem in Malaysia: Policies, Accreditation, and Workforce Development</i> Jaikol Bin Udar: <i>The impact of TVET instructors' competency towards teaching and learning effectiveness</i> Mohd Firdaus Mustaffa Kamal, et al: <i>Asia's TVET Financing Model: A Comparative Study and Lessons for Malaysia.</i> Discussant: Lázaro Moreno Herrera
17.00-18.30	PARALLEL SESSION 4 VET TEACHER EDUCATION/ / DIDACTICS AND LEARNING Room 1 Kate Lavender, Kevin Orr: <i>Resilience, resistance to change, and the reproduction of teacher education for TVET teachers in England</i> Lyssa Puwels, et al.: <i>From islands to archipelago: Connecting teachers in practical subjects in secondary vocational education (VET) in Flanders</i> Chair: Lyssa Puwels Room 2 Kelvin C. Martins: <i>Mapping skills readiness for the energy transition: An integrated approach to vocational education and labour market alignment in Ireland</i> Pedro Luis Yturria, Manos Pavlakis: <i>Contrasting vocational traditions: A comparative study of VET teacher education and vocational didactics in Cuba and Greece</i> Nicole Kimmelman, Silvia Pool Maag: <i>Which competences are necessary for an inclusive teaching of diverse learners in vocational schools? Results from observations and interviews with vocational teachers in Germany and Switzerland</i> Chair: Nicole Kimmelman Room 3 Mats Vernholz et al.: <i>Different pathways, shared challenges: Reflections on entering vocational teaching in Germany</i> Benedicte Gendron: <i>Transformative pedagogy, capacitating educational leadership and bienveillance: Inner resources development for outer changes and regenerative education, towards inclusive excellence in TVET</i> Chair: Benedicte Gendron

	Room 4 Rory McDonald, Jenifer Burden: <i>Industry associates: Establishing a pathway for technical experts to address teacher supply challenges</i> Abede Mack, et al.: <i>How can the paucities experiences by vocational schools contribute to their ability/inability to train students for industry and entrepreneurship? Perspectives from TVET educators</i> Chair: Janne Kontio Room 5 Workshop for emerging researchers. <i>Designing and implementing VET research VET research in organizational contexts</i> Chair: Susanne Peters
20.00-22.00	Dinner

Tuesday, May 19

From 06:30	Breakfast
08.45-09.00	Introduction to Day II
09.00-10.00	Keynote 2: PhD Tobias Karlsson Saksen, Linköping University
10.00-10.30	Coffee break
10.30-12.00	PARALLEL SESSION 5: MIGRATION, INCLUSION, GENDER, AI AND DIGITALIZATION Room 1 Åsa Kindevåg: <i>"You are there, but are you invisible, one might say": Adult foreign-born care providers' encounters with the different norms and values in elderly care setting</i> Sebastian Ixmeier, Dieter Münk: <i>Lost in transition? – International pathways to vocational education and training for people with a migrant background. New insights for Germany</i> Frieda Klaus, Ida Kristina Kühn: <i>Recognition of the context of skilled labour migrants: The perspective of migrants in Germany</i> Chair: Marianne Teräs Room 2 Marcel Martsch, Erika Gericke: <i>Gender- and migration-sensitive concepts for vocational school education programs tailored by applying biographical research</i> Katerina Kostadinovska, Jens Dörpinghaus: <i>Occupational visibility across platforms: Investigating biases in VET and gendered job title recommendations</i> Oscar A. Aliaga et al.: <i>Shifting trends? Women enrollment in postsecondary STEM vocational education programs in the United States</i> Chair: Oscar A. Aliaga Room 3 Pia Wagner, Lisa Fournier: <i>The pioneers are dropping out: What motivates women and men to leave their atypical vocational education and training (VET) occupations?</i> Antoni Mestre, et al: <i>Understanding Dropout Intention in Intensive Dual VET</i> Åsa Broberg et al: <i>History of vocational education and training for women: International commentaries.</i> Chair: Åsa Broberg Room 4 Michael Tiemann, Jens Dörpinghaus: <i>The perception of AI in different labor market data: Understanding professional requirements and potentials for VET curriculum development</i> Felix Derksen et al.: <i>Analyzing digital footprints: Web analytics and social media data for understanding VET occupation demand in Germany</i> Natasha Kersh, Andrea Laczik: <i>Enriching work-related and vocational learning in higher education through innovation, diversification, and digital technology</i> Chair: Natasha Kersh Room 5 Laura Getz et al.: <i>Digital competences in VET classrooms: Intrinsic motivation as a facilitator of digital skills</i> Julia Hufnagl et al. <i>Teachers' competence requirements for sustainability transformation in the context of</i>

	<i>project-based learning</i> Susanne Enssen et al: <i>The role of school maintaining bodies on digital transformation in vocational education – Potentials for action on digitalization management for vocational schools</i> Chair: Susanne Enssen
12:00-13:20	Lunch
13.30-15.00	PANEL SESSION Room Auditorium Challenges of doing migration research in VET through the lenses of various projects at the Stockholm University Presenters: Lázaro Moreno Herrera Åsa Broberg Marianne Teräs Sofia Antera Janne Kontio Moderator: Janne Kontio
15.00-15.20	Coffee break
15.20-16.00	CONCLUDING SESSION Room Auditorium
16.00-17.30	Collaboration corners (Location: free choice on the boat, Not in the conference area)
17.30-17.50	Ready for arrival
18.50	M/S Viking Glory arrives Stockholm Viking Terminal, Stadsgårdsterminalen

Keynote 1: Professor Emerita, Ph.D., Viveca Lindberg, Stockholm University

Vocational didactics in Swedish VET research since the 1980s

Although vocational didactics has a long history outside Sweden, but within Sweden this concept was first introduced by Lennart Nilsson (1986), as part a chapter in the first part of a book series comprising three volumes. However, this must be understood against the backdrop of the Swedish educational history of teacher education, where the subject "teaching practice" (metodik) was implemented in teacher training for compulsory school (grades 1 to 9) in 1842 and abandoned in 1988. For upper secondary school, the teaching subject(s) dominated. Teaching practice was considered less important for these teachers and therefore a minor part (Murray, 1999). Even though the first VET-teacher education was founded in 1920, it survived only for a few years and re-appeared in the 1960s. In line with other Swedish teacher education programmes, teaching practice became part also of VET-teacher education (Larsson, 1991, 1995). Therefore, vocational didactics must be interpreted as part of the national context for the concept of subject didactics and the tensions related to its the implementation. However, while subject didactics became the focus of research in several general subjects, the interest in vocational didactics was scarce. In 2006, there were a handful of studies focusing teaching-learning in Swedish VET, representing decades from 1986–2004, different programmes and subjects. The issue of this paper is to contribute with aspects of how research on vocational didactics and the tandem interest for vocational subject didactics has developed since its implementation and the tensions that have emerged in different uses of the concept(s).

Parallel Session 1: Vocational Didactics, Knowing and Pedagogy

Title: Study Ability, Special Educational Needs, and Workplace Learning in VET

Aija Laaksonen*

Department of Education
University of Turku
E-mail: aiklaa@utu.fi

* Corresponding author

Abstract: Study ability is a key component of lifelong learning and competence development in working life. In vocational education and training (VET), workplaces increasingly serve as key learning environments. The ability to study—defined as the capacity to acquire, apply, and develop knowledge—is essential for success in these settings. For students with special educational needs (SEN), study ability becomes even more critical: individual support requirements, the quality of guidance, and the accessibility of the workplace directly influence learning outcomes.

This study examines how study ability is constructed in workplace-based learning for students with SEN. The research applies qualitative content analysis to descriptions of functioning based on the International Classification of Functioning, Disability and Health (ICF). Through this approach, the study explores how environmental factors, personal characteristics, and pedagogical practices interact to support or hinder learning. The analysis identifies structural and pedagogical strategies that enhance study ability, such as support for social interaction skills and inclusive workplace practices.

The findings provide practical recommendations for teachers, guidance counselors, and workplace supervisors, aiming to strengthen study ability and promote equitable participation in workplace learning. These proposals contribute to more inclusive and effective VET environments.

Keywords: Study Ability, Special Educational Needs, SEN, Work Placement-base Learning, WPL

Biographical notes:

MA Aija Laaksonen is doctoral researcher in University of Turku. Her research interest is in student support, special education and counselling. She is experienced special education teacher in vocational education and training.

Didactically intended work-analyses as a tool for lesson planning in the vocational field of nutrition and home economics

M.Ed. Christiane Klatt*

Institute for Vocational Education and Didactics - Professorship in Nutrition and Home Economics / Vocational Didactics

Dresden University of Technology

E-mail: christiane.klatt@tu-dresden.de

StR Jan von den Berg

Faculty of Agricultural, Nutritional and Engineering Sciences, Institute of Nutritional and Food Sciences - Professorship of Subject-Specific Didactics in Agriculture and Nutrition

University of Bonn

E-Mail: jvondenb@uni-bonn.de

Prof. Dr. Alexandra Brutzer

Faculty of Agricultural, Nutritional and Engineering Sciences, Institute of Nutritional and Food Sciences - Professorship of Subject-Specific Didactics in Agriculture and Nutrition

University of Bonn

E-Mail: brutzer@uni-bonn.de

Prof. Dr. Jana Markert

Institute for Vocational Education and Didactics - Professorship in Nutrition and Home Economics / Vocational Didactics

Dresden University of Technology

E-mail: jana.markert@tu-dresden.de

Abstract

In vocational teacher training, knowledge of vocational didactics is important for the development of professional skills (Becker, 2013). Acquiring this knowledge requires expertise in vocational and occupational matters, which can be developed through work-analyses (Niethammer, 2006). Thus far, the added value for teacher training students has only been hypothesised (Rauner & Ahrens, 2021).

Niethammer (2006) presents a teaching concept to promote field-related didactic skills among vocational teacher training students using work-analyses intended for vocational didactics. Based on this work, we conducted an exploratory, long-term study using a qualitative methods approach to examine the usability of didactically intended work-analyses for working processes in nutrition and home economics. Our results show that work-analysis facilitates the selection of subject-specific content for the creation of practice-oriented teaching and learning materials, as well as the identification of key concepts for professional action. Emerging work-process-schemata led,

among others, to the development of educational chatbots.

keywords

Vocational education and training, Nutrition and Home Economics, Didactically intended work-analyses

Biographical notes:

M.Ed. Christiane Klatt is PhD student and project manager for the DigiKomm 4.0 project, researching the influence of digital transformation on work activities and communication situations using qualitative exploratory and work-analysis methods. She teaches at the Chair of Jana Markert at the Department of Vocational Education at the Technical University of Dresden, Germany on didactically intended work-analyses as a tool for lesson planning.

Jan von den Berg works as a seconded teacher (Studienrat) at the Faculty of Agricultural, Nutritional and Engineering Sciences at the University of Bonn, Germany. He focuses particularly on the transitions between different phases of teacher education as well as on the interconnection between theory and practice. In this context, he is primarily responsible for the courses related to the practical training semester.

Prof. Dr. Alexandra Brutzer is full professor at the Faculty of Agricultural, Nutritional and Engineering Sciences at the University of Bonn, Germany. Her research focuses, among other areas, on the design of competence-oriented teaching–learning arrangements, the work on educational pathways, the handling of heterogeneity, the meaning and consequences of digital transformation in the professions of agriculture, nutrition and home economics, as well as on the student entry phase in vocational teacher education.

Prof. Dr. Jana Markert is full professor at the Department of Vocational Education at the Technical University of Dresden, Germany. Her research interests focus on vocational teacher education, garden-based learning, (digitalisation of) vocational work and training, as well as nutrition in the nexus of planetary and human health.

Dispelling Myths: A New Look at Students Participation and Achievement in Secondary Schools Vocational Education in the United States

Oscar A. Aliaga*

Department of Leadership, Policy, and Lifelong Learning
College of Education
University of South Florida
4202 E. Fowler Avenue, EDU 105,
Tampa, FL 33620, USA
E-mail: oaliagaabanto@usf.edu

Pradeep Kotamraju

* Corresponding author

Abstract: We examined students' participation and achievement in secondary vocational education programs in the United States. This is a topic of interest because prevailing views still consider vocational education an option mainly for disadvantage students and those performing poorly in terms of academic coursework, thus limiting their performance at school and their postsecondary trajectories, whether they are further education or work. However, federal and state policies and practices have shifted both the focus and the ways vocational education is offered through secondary schools. We analyzed participation and achievement focusing on the 12 occupational programs students enrolled in during high school, and the four levels of credits they take in those occupations, thus providing a better context for where they learn and more realistic measures. We used the High School Longitudinal Study of 2009. As expected, we observed important differences in participation along gender and race, but not so based on socioeconomic status. Our explanatory variables predicted differently participation in each of those occupational programs based on the number of vocational credits students earned in high school, which reveals vocational education course taking in specific fields show more variability than when treating vocational education as an encompassing, overarching category.

Keywords: Secondary vocational education, United States, occupational programs

Biographical notes:

Dr. Oscar A. Aliaga is an Associate Professor at the Department of Leadership, Policy, and Lifelong Learning, at the College of Education, University of South Florida. He has conducted research primarily on participation in career and technical education, and its impact on students' achievement (including academic performance and dropouts) and postsecondary outcomes (enrolment in 2-year and 4-year degree programs, and work after school). He has also conducted research on school counselors and CTE, and work-based learning.

Dr. Pradeep Kotamraju is an economist with extensive experience in Career and Technical Education (CTE) in the United States, both as researcher and system administrator. He has been state CTE director in Minnesota, Iowa and California, and has authored and co-authored several publications on the topic.

Level Up to Responsibility: A Values-Based Framework for Student Motivation, Well-being, and Life Skills in Secondary Education

Vasiliki Papathanasiou*

Head of School, Educational Innovator & Philologist, Co-Designer of the Level Up Pyramid (LUP), Greek and Latin Language Teacher

Atsoglou High School

E-mail: v_papatha@yahoo.com

Ekaterini Zafiri

Philologist & Co-Designer of the Level Up Pyramid (LUP), Educational Innovator, Greek and Latin Language Teacher

Atsoglou High School

E-mail: zafirikate@gmail.com

* Corresponding author

Abstract: This study presents the Level Up Pyramid (LUP), an innovative, values-based framework implemented in a Greek lower secondary school to enhance student motivation, well-being and responsibility. In a context where adolescents often experience disengagement and fragmented value systems, the aim of LUP is to integrate citizenship education, self-regulation and life skills into daily school culture. The framework draws on constructivist pedagogy, positive psychology and gamified learning. Methodologically, it was applied through weekly challenges, reflection sheets and collaborative classroom rewards, combined with a school-wide nutrition and well-being program. Initial findings indicate improved student participation, empathy, punctuality and a stronger sense of collective responsibility. Teachers reported greater classroom cohesion and resilience in students. The study concludes that LUP can operate as a transferable model for fostering democratic ethos, personal agency and professional-like work habits in secondary education. Further research will refine its assessment tools and long-term impact.

Keywords: Values-based education, Student motivation, Citizenship and life skills, Gamified learning, Well-being in schools

Biographical notes:

Vasiliki Papathanasiou is a philologist and Head of School in independent secondary education in Corinthia, Greece. For over thirty years, she has taught Classical Greek, Modern Greek Language and Literature, and History, preparing students for national university entrance examinations. Her work focuses on curriculum innovation, values-based education, and student motivation, and she is the co-developer of the Level Up Pyramid (LUP), a gamified framework for citizenship and well-being. She is also the author of educational materials and actively promotes the connection between national cultural heritage and global educational perspectives.

Ekaterini Zafiri is a philologist in secondary education in Greece and co-designer of the Level Up Pyramid (LUP), an innovative framework for values-based learning and student agency. Her teaching focuses on Ancient and Modern Greek language, literature, and cultural education, combining tradition with contemporary pedagogical practices. She collaborates in the implementation of school-wide programmes on democratic citizenship, well-being, and student responsibility. Her academic interests include language learning, classroom motivation, and the role of culture in shaping ethical education.

Balancing School-Based and Dual VET Pathways: Insights Into Student Perceptions

Christof Nägele

University of Applied Sciences and Arts and University of Basel*

E-mail: christof.naegele@fhnw.ch

* Corresponding author

Abstract: In Switzerland, upper-secondary education includes initial vocational education and training (iVET), the dual apprenticeship system, and two school-based alternatives: upper-secondary commercial schools (WMS) and specialised upper-secondary schools (FMS). Although cantons aim to promote iVET as the first choice, they also offer WMS and FMS pathways. This study examines how lower-secondary students perceive learning opportunities in school-based programmes (WMS, FMS) compared with iVET. Drawing on vocational choice theory and research on perceived learning environments, the study assumes that students' programme preferences are shaped by expectations and stereotypes rather than informed knowledge. Since 2017, data have been collected from approximately 6,500 lower-secondary students using standardised questionnaires on motivations, interests and perceived learning opportunities. Students systematically favour school-based programmes, perceiving greater learning and advancement opportunities than in iVET. Findings indicate a limited and stereotype-based understanding of iVET among youth, highlighting the need for improved guidance and realistic insights into vocational learning environments. This paper is particularly relevant to the EU context, where many countries also face challenges in balancing school-based and company-based VET pathways and ensuring informed learner choices.

Keywords: Upper-secondary education, Student perceptions, School-based programmes, Dual VET systems

Biographical notes:

Dr Christof Nägele is a Senior Researcher and Lecturer at the FHNW and the University of Basel. He specialises in vocational education and training research with a focus on school-to-work transitions and career planning. He serves as chair of VETNET and as a board member of CareerLead, the European network for career guidance and development and as an editor of the Trends in VET and Crossing Boundaries in VET publication series.

Critical Bildung and Themecentered Interaction as concepts to develop “intrinsic resistance” in Vocational education

Franz Kaiser*

Institute for Vocational Education (ibp)

University of Rostock

E-mail: franz.kaiser@uni-rostock.de

Anna Hanf

Institute for Vocational Education (ibp)

University of Rostock

E-mail: anna.hanf@uni-rostock.de

Berivan Isik

Institute for Vocational Education (ibp)

University of Rostock

E-mail: berivan.isik@uni-rostock.de

* Corresponding author

Abstract:

The growth of racism and nationalist ideas necessitates a return to philosophies and concepts that oppose the resurgence of the Nazi regime in Germany (Adorno, 1966). The goals of Bildung should not be divided into an elitist, reflective part for the upper class and a reductive education for utilitarian work (Kaiser, 2020).

Two developments by mainly Jewish intellectuals who fled Germany and returned after the Second World War can help: The Frankfurt School, which offered a new approach to social philosophy and educational philosophy (Kminek, 2024), and the more practical group therapy approach of Ruth Cohn, which developed a kind of pedagogical therapy for society as a whole (Scharer, 2020). These approaches can analyse the tensions in VET between educational goals and industrial demands, as well as fostering imagination and 'intrinsic resistance' (Hanf, 2021).

This paper introduces these concepts and explores how they influence VET teacher education seminars, encouraging social imagination and the design of humanistic VET.

Keywords: critical theory, Bildung, TCI, resistance

Biographical notes:

Dr. Franz Kaiser is a full professor at the Institute for Vocational Education at the University of Rostock, Germany since 2014. His lectures and research focus Comparative VET research in the Nordic Countries, VET teachers, group dynamics, non-sustainability and critical theory of 'Bildung'

Anna Hanf is research assistant and PhD candidate at the Institute for Vocational Education at the University of Rostock, Germany. Her research focus on "feeling at home abroad", resonance, recognition and critical theory of 'Bildung'

Berivan Isik is research assistant and PhD candidate at the Institute for Vocational Education at the University of Rostock, Germany. Her research focus on critical racism, biography and career, VET teacher education and didactics

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Company visit and career mentorship as work-integrated learning experience: perspectives from high school students

Kara Chan*

Department of Communication Studies
Hong Kong Baptist University
E-mail: karachana@hkbu.edu.hk

Shing Chi Ho

Department of Communication Studies
Hong Kong Baptist University
E-mail: hoshingchi@hkbu.edu.hk

* Corresponding author

Abstract

Context: The CLAP-TECH Pathway is a five-year program for high school students taking applied learning courses to articulate into higher diploma vocational studies in information technology or creative media.

Purpose: The study aims to investigate what students learn from company visits and career mentorship.

Theoretical grounds: The study is grounded in Albert Bandura's social learning theory.

Methods: The study adopted a mixed-method approach. In total, 2,000 records of student survey feedback from company visits and mentorship were collected over three years and analyzed using a statistical package. A focus group study of two sessions, including nine program students, was conducted in July 2025.

Findings: Survey data indicated that students were satisfied with company visits and career mentorship. On a five-point scale, the statements "I have gained more knowledge regarding the workplace and industry insights" and "My mentor has helped me to clarify my interest and career pathway" scored 4.07 and 4.08, respectively. The most common topics during mentorship were career prospects, personal insight, and industry knowledge. Students in higher grades engaged more in mentorship than students in lower grades. Focus group data identified five themes: treasure the experience, detailed observation of workplace, experience expectations, onboarding matters, and job aspirations.

Conclusions: Company visits and mentorship assisted students in their school-to-work transitions.

Keywords: co-curricular activities; job aspiration; career decision; industry partnership; qualitative interviews

Stockholm International Conference on Research in VET Abstract

Biographical notes:

Professor Kara Chan is a professor at the Department of Communication Studies at the Hong Kong Baptist University, China. She is the academic director of the CLAP-TECH Pathway project, which aims to nurture students for careers in the IT and creative media industry. Her research interests focus on creativity education and youth empowerment.

Mr. Shing Chi Ho is a research assistant at the Department of Communication Studies at the Hong Kong Baptist University, China. He assisted in conducting the research project "Work-integrated learning: student learning from company visit, mentorship, and internship".

Insights into Vocational Education for the Creative Media Industry: A Three-Year Study Evaluating Programme Effectiveness among Hong Kong High School Students

Kara Chan*

Department of Communication Studies
Hong Kong Baptist University
E-mail: karachan@hkbu.edu.hk

Maggie Fung

CLAP-TECH Centre
Hong Kong Baptist University
E-mail: mfung@hkbu.edu.hk

Mandy Tse

CLAP-TECH Centre
Hong Kong Baptist University
E-mail: mandy-tse@hkbu.edu.hk

* Corresponding author

Abstract

Context: An Applied Learning course titled 'Multimedia Storytelling' with 180 contacts hours for students in grades 10 to 12 was launched in 2022. The first cohort consists of 120 enrolled students from seven schools, and 99 of them completed the course at the Grade 12 level. The course served as an entry-level vocational education, assisting students in making informed decisions about a career in the creative media industry.

Purpose: The study aims to evaluate the course learning outcomes and development of workplace skills and career adaptability among enrolled students.

Theoretical grounds: The curriculum design and the design of co-curricular activities engaging industry partners were grounded in Kolb's (1984) experiential learning.

Methods: The study adopted a cross-sectional survey method. Three rounds of surveys were conducted among 105 Multimedia Storytelling students and 103 non-enrolled students in June 2022, January 2023, and May 2024. Students self-evaluated their knowledge about the creative media industry, life and career planning, workplace soft skills, and career adaptability.

Findings: Multimedia Storytelling students in grade 12 reported significantly higher mean scores in attitudes and knowledge about the creative industry, ten essential softskills for the workplace, life and career planning, and career adaptability than their nonparticipating peers from the same secondary schools. Also, these Multimedia storytelling students, as a whole, also reported significantly higher mean scores in grade 12 in these metrics than that in grade 10.

Conclusions: Students exposed to vocational education in the creative media gained industry knowledge and were better informed in making career choices.

Keywords: career planning; experiential learning; program evaluation; youth engagement; industry partnership

Biographical notes:

Professor Kara Chan is a professor at the Department of Communication Studies at the Hong Kong Baptist University, China. She is the academic director of the CLAP-TECH Pathway (Creative Media). Her research interests focus on creativity education and youth empowerment.

Dr. Maggie Fung joined CLAP-TECH Centre and is responsible for developing the curriculum design of the Applied Learning course and its articulated pathway tailored for senior secondary school students who intended to pursue careers in Multimedia Storytelling and related professions.

Ms. Mandy Tse is a Senior Project Manager at CLAP-TECH Centre of Hong Kong Baptist University. She managed more than 10 large-scale projects (up to HK\$80 million each) in higher education and non-government organization sectors, bringing them to success.

Beyond Classrooms: Art Tech Voyage Fosters Proactive Learning in Hong Kong Higher Diploma students

Maggie Fung*

CLAP-TECH Centre
Hong Kong Baptist University
E-mail: mfung@hkbu.edu.hk

Kara Chan

Hong Kong Baptist University
Department of Communication Studies
E-mail: karachan@hkbu.edu.hk

Mandy Liu

CLAP-TECH Centre
Hong Kong Baptist University
E-mail: lymmandy@hkbu.edu.hk

Yuyuan Zhuo

Hong Kong Baptist University
Department of Communication Studies
E-mail: estella_z@hkbu.edu.hk

* Corresponding author

Abstract

Context: **Art Tech Voyage** is an experiential learning programme for students enrolled in the Higher Diploma in Art Tech Design. Conducted in a global classroom setting outside Hong Kong, it took place in Tokyo, Japan, in May 2025.

Purpose: This study aims to explore students' in-depth learning experiences in Art Tech Voyage.
Theoretical grounds: This study is grounded in Self-Determination Theory (SDT). SDT posits that fulfilling the psychological needs for autonomy, competence, and relatedness enhances motivation and personal development.

Methods: A qualitative research approach was adopted, utilising MaxQDA for data analysis. Reflective journals from 36 students were systematically coded to identify patterns and key themes.

Findings: Four major themes emerged: the development of student proactiveness, motivation for self-growth, the drive to build human capital, and increased clarity in vocational direction.

Conclusions: These experiences provided the students with new insights. Notable changes in students' attitudes and behaviours emerged throughout the programme.

Keywords: global classroom, overseas exposure, personal growth, proactive learning, experiential learning

Biographical notes:

Dr. Maggie Fung is the Programme Director of the Higher Diploma in Art Tech Design. She joined the CLAP-TECH Centre and is responsible for curriculum development and programme management for students aspiring to pursue careers in Multimedia Storytelling, further studies, and other creative professions.

Professor Kara Chan is a professor at the Department of Communication Studies at the Hong Kong Baptist University, China. She is the academic director of the CLAP-TECH Pathway project, which aims to nurture students for careers in the IT and creative media industry. Her research interests focus on creativity education and youth empowerment.

Ms Mandy Liu is the lecturer of the Higher Diploma in Art Tech Design. She joined the CLAP-TECH Centre and is responsible for programme development and teaching and learning enhancement for enriching students' learning experience in Multimedia Storytelling through innovative pedagogical approaches.

Ms Yuyuan Zhuo is a senior research assistant in the Department of Communication Studies at the Hong Kong Baptist University. She is strong in focusing on in-depth analyses of social phenomena using qualitative and quantitative methods. Her research interests focus on social impact and youth empowerment.

”Do you have to know how to use all drawings?”: An ethnographic exploration of construction drawing practices

Håkan Johansson*

Kristianstad University
Department of Educational Sciences
hakan.k.johansson@hkr.se

Sara Lenninger

Kristianstad University
Department of Educational Sciences
sara.lenninger@hkr.se

* Corresponding author

Abstract:

Construction workers must be able to interpret a variety of drawings while simultaneously navigating workplace hierarchies. However, this aspect of vocational knowing is not necessarily provided in Swedish construction VET. This study explores the conditions and rationales for teaching drawings by comparing drawing practices at a construction site and in a construction VET school. Data, mainly consisting of drawings, field notes, and interviews, were generated through ethnographic fieldwork in both contexts. The ongoing analysis draws on the concepts of *literacy event*, Peirce’s *iconicity*, and Biesta’s *domains of purpose*. Preliminary findings suggest that drawing practices in school-based VET primarily aim to *qualify* students for workplace drawing practices comprising a variety of forms of expressions. However, teachers’ talk about drawings also function as a means of *socialising* students into workplace hierarchies, as well as fostering the *subjectification* of promising students. This may indicate a more complex construction VET than previously documented.

Keywords: construction VET, drawings, iconicity, literacy, purpose of education

Biographical notes:

Håkan Johansson is a doctoral student at the Department of Education at Kristianstad University, Sweden, and a member of the doctoral school PYRK (Pedagogik och yrkeskunnande), which is arranged by Malmö University, Kristianstad University, and Linnaeus University. His research interests focus workplace literacy and VET.

Sara Lenninger is an associate professor in cognitive Semiotics at Kristianstad University, Sweden. Her research centers on the intersection of semiotic theory and communication, with a particular emphasis on how visual meanings are conveyed and interpreted in various communicative contexts.

Knowledge utilisation and empowerment in the workplace

Magdolna Benke

University of Debrecen, CHERD,
1031 Budapest, Vízimolnár u. 13. Hungary
magdolna.benke@gmail.com

Abstract

Context: The extent to which knowledge acquired through school-based and workplace training is utilised in the workplace depends largely on the human resource management policy applied in that workplace.

Aim or purpose: I highlight the complex issue of 'empowerment' and demonstrate which groups of employees have the opportunity to experience genuine empowerment in the workplace, and which do not.

Theoretical grounds: According to Bennett (2002), empowerment involves developing the resources and competencies necessary for individuals and groups to participate in and influence organisations. There are three types of empowerment: individual, community and social (Balcazar, Keys & Vryhof, 2019). Methods for developing individual empowerment include training, developing advocacy skills and learning (Cattaneo & Chapman, 2010).

Methods: The research method is literature review.

Findings: In the context of employee training, empowerment aims to encourage acceptance of change and adaptation to organisational objectives (Kappelman & Richards, 1996). Genuine 'involvement' only occurs with well-qualified, marketable knowledge workers. A large workforce that is poorly trained and easily replaceable has no chance of becoming empowered (Bakacsi, 2004).

Conclusions: Boyadjieva and Ilieva-Trichkova (2023) emphasise that individual empowerment alone is insufficient; collective engagement is also necessary. According to Benke (2022), empowerment is not a panacea and can only be effective to a limited extent within utilitarian economic and social conditions. An interesting research question is what obstacles there are to implementing Sen's (1999) concept of empowerment among traditional workers within a utilitarian economic framework.

Keywords: knowledge utilisation, empowerment, human resource management, employee training, capability approach

Biographical notes:

Magdolna Benke, PhD, researcher at CHERD and lecturer at the Doctoral School of Human Sciences at the University of Debrecen, Hungary. Her research interests focus on the relationship between vocational education and learning communities, opportunities for the new VET scenarios in the CEE countries, empowerment and social innovation.

Assessment as Boundary Object in VET

Ann Karin Sandal*

Department of Teacher Education and Sports
Western Norway University of Applied Sciences
E-mail: ann.karin.sandal@hvl.no

Ketil Langørgen

Department of Teacher Education and Sports
Western Norway University of Applied Sciences
E-mail: ketil.langorgen@hvl.no

Kjersti Hovland

Department of Teacher Education and Sports
Western Norway University of Applied Sciences
E-mail: kjersti.hovland@hvl.no

*Corresponding author

Abstract

Vocational Specialization (VS) in VET is a significant subject in school-based VET in Norway, taking place both in school and at workplaces. Students' development of vocational skills is assessed both in school and at workplaces, as a cooperation between VET teachers and workplace instructors. This raises several challenges, e.g. school-dominated understanding of assessment meeting vocational and work-based assessment traditions. This study aims to investigate these tensions, complexities and possibilities in assessment in VS with focus on the assessors' understanding and practices of assessment in the two learning contexts. Assessment as a boundary object provides a theoretical concept to analyse and explore assessment in VS. Data is collected by qualitative interviews with VET teachers and workplace instructors in five VET programs. The results from the analysis will be presented, aiming to add to the existing research.

Keywords

Assessment – Boundary Object – Workplace Learning - School Based learning - VET

Biographical notes

Ann Karin Sandal is an associate professor Ph.d in Pedagogy at Western Norway University of Applied Sciences. Her research interests includes assessment in VET, vocational didactics, VET teachers' professional development and workplace learning in VET.

Ketil Langørgen is a senior lecturer in Pedagogy at Western Norway University of Applied Sciences. His research interests relate to teacher professional development and supervising.

Kjersti Hovland is an assistant professor in Pedagogy at Western Norway University of Applied Sciences. Her research interests focus on assessment in VET and VET students professional training.

Maintenance Method - Implementation Opportunity for Action-Oriented Teaching in Vocational Schools

Thomas N. Jambor*

Didactics of Electrical Engineering and Computer Science

Leibniz University Hannover

E-mail: jambor@dei.uni-hannover.de

* Corresponding author

Abstract: In contradistinction to academic education, vocational training is distinguished by a strong practical focus. In the context of dual training, the responsibility for providing learners with practice-oriented education is shared between companies and vocational schools. Action orientation is a fundamental concept in German curricula. In this context, the complete action with 6-7 phases can be regarded as a macro method that can be further differentiated for specific teaching situations.

The present paper delineates the maintenance method as a potential differentiation of action orientation. The maintenance method constitutes a pedagogical approach that utilises scenarios that are commonly encountered in professional practice, thereby engendering a high degree of motivation among learners. Firstly, the paper will present the constructivist foundation, a positioning in action orientation, and the structure of this method. In the ensuing discourse, the prospect of incorporating this approach within the curriculum of vocational schools will be deliberated.

Keywords: constructivist Didactics of Electrical Engineering (cDoEE), fundamentals of electrical engineering, self-control of learners, application-oriented learning

Biographical notes:

Dr. Thomas Jambor is a senior lecturer at Leibniz Universität Hannover. He received his doctorate in microelectronics and habilitated in didactics. In recent years, he has been a professor of didactics at the Technical University of Berlin and the University of Kassel.

Ethical conflicts in vocational education and training – ideas and findings for the further development of VaKE

Christin Siegfried*

Department of Business Education
University Potsdam
E-mail: christin.siegfried@uni-potsdam.de

Karin Heinrichs f

Department for vocational teaching and learning
University of Education Oberösterreich
E-mail: karin.heinrichs@ph-ooe.at

Alfred Weinberger

Department for school pedagogy and moral education
Private University of Education Linz
E-mail: alfred.weinberger@ph-linz.at

* Corresponding author

Abstract:

VaKE (Values and Knowledge Education) is a teaching concept designed to promote the acquisition of specialist knowledge and moral reasoning (Weinberger, Patry & Weyringer, 2008). This has already been empirically proven, but rarely in vocational education and training (VET) (Weinberger & Frewein, 2019). And little is known about the relationship of the integrated phases of discussions and the knowledge development.

Therefore, the aim of the presented study is to evaluate VaKE as a teaching concept in VET and to formulate theoretical impulses for further development (in particular for action theory and ICAP theory (Chi & Menekse, 2015)). Thus, we conducted an evaluation study in a digital setting on two conflict situations with N=50 apprentice in a pre-post test design, including videography of the small group discussions (Heinrichs, Siegfried & Weinberger, 2023). The results show correlations between the quality of the discussions, the moral arguments and knowledge-based soundness of the conflict resolution.

Keywords: VaKE, small group discussion, moral arguments

Biographical notes:

Dr Christin Siegfried is a professor at the Department of Business Education at the University Potsdam in Germany. Her research interests focus on group discussion in vocational education and training, teacher professionalisation and the development in economic competence.

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The influence of educational traditions on teaching practices and pedagogy – using the example of English and German vocational schoolteachers for car mechatronics.

Erika E. Gericke*

Department of Education

University Siegen

E-mail: erika.gericke@uni-siegen.de

Abstract

This abstract is based on the comparative ethnographic study *VET cultures in a European comparison: social practices in vocational classes for car mechatronics and in England and Germany*. VET culture is understood as a physical and symbolic frame for the different facets, which influence vocational education and learning processes. Educational traditions (McLean 1990) lie across a VET culture as it affects every single facet. (Gericke 2020, 2022, 2024)

The collected data consists of lesson observations and guided interviews with English and German VET teachers and students for car mechatronics. Both data types are analysed applying grounded theory (Strauss & Corbin 1995).

It will be shown that educational traditions influence a) the set-up of Initial Teacher Training for vocational schoolteachers, b) their occupational self-understanding and c) their social practices of teaching - using the example of English and German vocational schoolteachers for car mechatronics. Thus, teaching in vocational education is also shaped by a country's educational tradition.

Keywords: VET culture, national educational tradition, ethnographic study,

Biographical notes

Professor Dr Erika E Gericke is a professor at the Department of Education at the University Siegen, Germany. Her research interests focus on international comparative VET research, biographical research, socio-pedagogically oriented VET and digitalization in VET.

Parallel session 2: VET Systems and Policies

The National College of Technical Professional Education in Mexico: a dual education model

Juan Carlos Díaz Guevara*

Department of Educational Research
Center for Research and Advanced Studies (Cinvestav)
E-mail: juan.diaz@cinvestav.mx

Rosalba Genoveva Ramírez García

Department of Educational Research
Center for Research and Advanced Studies (Cinvestav)
E-mail: rgramire@cinvestav.mx

* Corresponding author

Abstract

From the field of educational research, this study examines the historical development of the National College of Professional Technical Education (Conalep) in Mexico. It is an institution founded in 1978 within Upper Secondary Education. Its educational model is focused on the training of technical professionals; it served as a precursor of what would later be one of the first dual education proposals at the upper secondary level in the country. This study adopts an educational policy analysis approach and is based on a literature review as well as various data sources and historical documents. Among the findings of this analysis are the moments of continuity and change in the Conalep educational model, the reconfigurations that the institution has experienced in response to several social processes and changes in educational policy, the characteristics that define the current dual education model and the different conditions that currently shape its development.

Keywords: Conalep, Upper Secondary, Dual Education, Technical Education, Educational Policies.

Biographical notes:

Mg. Juan Díaz holds a Bachelor's degree in Philosophy from the Industrial University of Santander (UIS) and a Master's degree in educational research from the Autonomous University of Aguascalientes. He is currently pursuing his PhD at the Department of Educational Research of the Center for Research and Advanced Studies (DIE-Cinvestav). His research focuses on the relationship between education and work, upper secondary education, and educational policies.

Dr. Rosalba Ramírez holds a Bachelor's degree in Sociology from the National Autonomous University of Mexico (UNAM), a Master's degree in Educational Research from the Department of Educational Research at the Center for Research and Advanced Studies (DIE-Cinvestav), and a PhD in Pedagogy from UNAM. Her areas of interest include the circulation of scientific knowledge, processes of disciplinary institutionalization, higher education, and public policy.

Roll with the Changes: Evolution of IVET Participation amidst COVID, Demographic Decline and Changing Employment Structure in the Context of proliferating EU VET agenda.

Marko Lucić (Emergent researcher)

Teo Matković

Institute for Social Research in Zagreb

Frankopanska 22/I, 10000 Zagreb, Croatia

Keywords: IVET participation trends; structural impacts; VET system traits; UOE data; COVID-19

Abstract:

Over the past two decades, VET has attained an ever more prominent role in EU policies¹ for sustainable competitiveness, social fairness and resilience, with an expanding set of indicators in function of targets or quality assurance. Yet throughout the same period, IVET systems across the EU have been exposed to demographic and industrial structural shifts as well as the COVID-19 pandemic shock. This paper uses disaggregated UNESCO-OECD-Eurostat (UOE) statistics on formal education for EU countries to map whether, where and in which fashion the IVET participation has evolved in this context.

Drawing on a harmonised annual series of enrolments, entrants and graduates by age in the context of demographic cohort size, we construct cohort indicators of IVET participation and staging of entries and graduations, thus observing shifts or breaks in country patterns over the 2013-2022 period. In line with EU policy priorities, we then focus on changes in the field-of-study structure (ISCED-F), with particular attention to STEM, and trace shifts towards gender balance in IVET.

Those patterns will be checked against the well-established skill production regime typology and VET system dimensions (stratification, specificity, linkages). As well, the temporal scope allows us to inferentially situate identified trends relative to various pan-european (COVID-19) and country-specific developments (demographic trajectories, changes in the opportunity structure, smoothness of school-to-work transitions and attractiveness of VET).

Provisional results indicate some changes at the national level in the observed period, yet no clear trend and much heterogeneity. No convergence or solid overarching trend was established with regard to overall participation patterns or gender balance. The effect of COVID-19 is very limited, and patterns were robust to demographic changes. Assessment of patterns at the level of skill production regime clusters and the impact of opportunity and attractiveness structure is still underway.

¹ Notably enhanced european cooperation in VET (2002 Copenhagen process - Maastricht, Helsinki, Brdeaux, Bruges communiques 2004-2010, Riga conclusions 2015, Osnabrück declaration 2020), 2009 EC recommendations on EQUAVET and ECVET, 2016. New Skills Agenda for Europe, 2018 Framework for Quality and Effective apprenticeships, 2020 Council recommendation on VET for sustainable competitiveness, social fairness and resilience

By combining a series of vetted and granular administrative data (UOE) with a policy-anchored perspective, within a comparative and longitudinal framework, the paper speaks to ongoing debates on the capacity of IVET to respond to demographic change, labour-market restructuring, as well as European VET and green-digital transition agendas.

Title: Raising of Participation Age in England: Post-16 provision for those who do not take the academic route

Dr Andrea Laczik*

Director of Research
The Edge Foundation
alaczik@edge.co.uk

Dr Dana Dabbous

Senior Education and Policy Researcher
The Edge Foundation
ddabbous@edge.co.uk

Abstract

The aim of this research was to revisit the Raising of Participation Age (RPA) in England ten years on this policy was introduced. According to the RPA young people remain in learning (not confined to school-based learning) to the end of the academic year in which they turn 17 from 2013 and to the time of their 18th birthday from 2015. It aimed at reducing economic and social inequality through improved opportunities (DfE, 2007). This research investigated how young people perceive and experience staying in education and training until they reach 18. We interviewed 116 young people across the case study areas, 86 in focus groups and 30 individually. This paper will highlight structural, institutional, and social and personal barriers for young people to engage with education and training. The research has exposed the complex and fractured post-16 EET system in England which is most damaging for the marginalised and disadvantaged groups of young people.

Keywords: Raising of Participation Age, VET, marginalised young people, England

References

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Biographical notes:

Dr Andrea Laczik

Andrea is the Director of Research at the Edge Foundation. She has over 20 years of education research and policy evaluation experience while working at Oxford and Warwick Universities and Edge. Her broad interests cover Vocational Education and Training (VET) and apprenticeships at all levels, employer engagement in VET and general education, skills development, innovative/alternative higher education, youth transition and trajectories and provisions for young people and adults from disadvantaged backgrounds.

Dr Dana Dabbous

Dana is a Senior education and policy Researcher at the Edge Foundation. Her research focuses on further education, vocational education and training, understanding good practice across all levels of education and labour skills shortages across the UK.

Detecting Sustainability-Related Terms in German VET Documents

Alexander M. Esser*

Federal Institute for Vocational Education and Training (BIBB), Bonn, Germany

E-mail: alexander.esser@bibb.de

Jens Dörpinghaus

Federal Institute for Vocational Education and Training (BIBB), Bonn, Germany

University of Koblenz, Germany

Linnaeus University (LNU), Växjö, Sweden

E-mail: doerpinghaus@uni-koblenz.de

* Corresponding author

Abstract:

Sustainability is a central societal topic that calls for systematic analyses also in the fields of Vocational Education and Training (VET) and Continuing VET (CVET). This paper presents a document processing pipeline for recognizing sustainability-related terms in German vocational documents, such as online job advertisements (OJAs), CVET advertisements and regulation documents.

To integrate our previous work on a comprehensive pipeline and Named Entity Recognition (NER) for vocational entities, two main challenges had to be addressed: models trained on historical data required adaptation to contemporary documents, and existing NER models needed to be expanded with additional sustainability-related taxonomies, e.g., from the German Environment Agency.

The resulting system allows to recognize sustainability-related terms in arbitrary VET documents and provides important foundations for further research questions. Two practical case studies exemplary demonstrate the analysis of sustainability terms in advertisements and regulation documents.

Keywords:

Named Entity Recognition (NER)

Sustainability

Document Processing

Online Job Advertisements (OJAs)

Biographical notes:

Alexander M. Esser is a PhD student at the Federal Institute for Vocational Education and Training (BIBB), Germany. His research focuses on information extraction from Vocational Education and Training (VET) documents, particularly table recognition and named entity recognition.

PD Dr Jens Dörpinghaus is postdoctoral researcher at Department 1, VET Research and Monitoring and Employment, at the Federal Institute for Vocational Education and Training (BIBB), Germany. He is also lecturer (Privatdozent) at the University of Koblenz and Linnaeus

University (LNU) in Växjö, Sweden. His research focuses on computational social science, data science methods, and big data analytics.

A question of subject position in the social world? – The value of formal (dual) vocational education and training in Mexico from the perspective of relevant stakeholders

Claudia Hunink

Department of Work and Labour Studies

University of Kassel

E-mail: chunink@uni-kassel.de

Abstract:

Researchers worldwide are addressing the negative image of formal VET (Allais 2020; Clement 2014; Euler 2019; Gonon 2014; Ratnata 2013). This Image could have a negative impact, for example in Mexico, in terms of demand for this type of education and initiatives for international VET cooperation. Nevertheless, there is a lower but constant demand for VET compared to general education. At the same time, the German Federal Government is particularly active in international VET cooperation (Gonon, 2014), resulting in a long-standing cooperation with Mexico. This raises the question of how relevant stakeholders value VET, as this area of research represents a blank spot (Pilz 2019).

To address this gap, a comprehensive secondary data analysis and collected qualitative data will be analyzed using grounded theory methodology. The aim is to determine whether and to what extent subject positioning in the social world influences the value attributed to formal VET (level 3, ISCED) within and outside dual programs.

Findings indicate that VET does not have negative connotations per se. Instead, value attributions are related to individual subject positions. However, it is becoming apparent that those subjects in positions of power tend to perceive this form of education as inferior, shaping hegemonic discourses and social practices.

Keywords: Vocational Education and Training, VET, Image, Dual, Mexico,

Biographical notes:

Claudia Hunink is a lecturer in the Department of Work and Labour Studies at the University of Kassel. Her research interests are focused on international comparative Vocational Education and Training research in Latin America, youths in transition, and vocational orientation.

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Developing a Ph.D. Professional in Germany – insights from an international overview

Prof. Dr. Uwe Elsholz

Lehrgebiet Lebenslanges Lernen

FernUniversität in Hagen/Germany

uwe.elsholz@fernuni-hagen.de

Abstract: The Herning Declaration calls on national governments to “Further develop higher VET (EQF levels 5-8) programmes to meet the demand for advanced vocational skills in the labour market and to recognise such qualifications at the same level as academic ones, using the national qualifications frameworks as reference point” (European Commission, 2025).

We are investigating the path to a professional qualification at level 8 of the NQF in Germany. Background to this is a project involving various interest groups such as chambers of commerce and chambers of crafts. An important approach in this project is to find out in which countries similar qualifications are already established. We have therefore searched for these countries and, in those cases (e.g. Switzerland, England), analysed the available documents, such as examination regulations, in more detail. The findings of these research will be presented and some conclusions discussed in relation to the German case.

Keywords: European Qualification Framework, Parity of Esteem, Higher Vocational Education

Biographical notes:

Prof. Dr. Uwe Elsholz is a Professor of Lifelong Learning at FernUniversität in Hagen, Germany. His research interests focus on the relationship between VET and Higher Education, recognition of prior knowledge, further education.

Ecosystemic Vocational Excellence: A Multi-Project European Experiment in Competence-Based Professionals and Practitioners’ Learning Experiences

Daiana Huber

Center for Promoting Lifelong Learning (CPIP), Romania

Permanent Secretariat of the LiberateSkills Pact for Skills

Abstract

This chapter analyses a multi-project, multi-country experiment in vocational excellence emerging from the LiberateSkills Pact for Skills, active across 21 countries and over 350 organisations. It examines how four major initiatives—PROMOTE, the Centre of Vocational

Excellence in Correctional Competences; PICTURES; CORE-ED; and RESIZE—overlap to create an ecosystemic model for competence-based adult learning in complex justice and social-economy environments. Rooted in EU priorities such as the Pact for Skills and Union of Skills initiatives, these projects converge around the lived realities of adult learners and practitioners working in constrained institutional settings. The combined data from competence framework validation, ecosystem mapping, ESCO alignment, and modular curriculum pilots shows how informal and non-formal Higher VET pathways can emerge outside classical VET structures. The chapter positions this constellation of projects as a European testbed for designing transparent, multi-agency, competence-driven lifelong learning systems.

Keywords

Pact for Skills; LiberateSkills; PROMOTE; RESIZE; CORE-ED; PICTURES; informal and non-formal VET; competence frameworks; adult learning ecosystems; ESCO alignment

Short Biographical Note

Daiana Huber is a senior expert in European VET innovation and coordinator of the LiberateSkills Pact for Skills, specialising in competence-based learning, correctional education, and multi-agency professional ecosystems. She has coordinated the PROMOTE Centre of Vocational Excellence in Correctional Competences and contributed to major European initiatives including PICTURES, CORE-ED, and RESIZE. Her work focuses on integrating ESCO-aligned competence frameworks, micro-credentials, and informal/non-formal learning into adult vocational development. She collaborates with justice institutions, VET providers, universities and social-economy actors across more than 20 countries.

Contact Email

daiana.huber@cpip.ro

Pathways and Specialisation Choices in Intensive Dual VET

Maria Tugores-Ques*

Department of Applied Economics, Research and Innovation on Vocational Education and Training Lab-LABVET
University of the Balearic Islands
E-mail: mtugores@uib.es

Antoni Mestre Hernández

Department of Applied Pedagogy and Psychological Education, Research and Innovation on Vocational Education and Training Lab-LABVET
University of the Balearic Islands
E-mail: antoni.mestre@uib.cat

Elena Quintana-Murci

Department of Applied Pedagogy and Psychological Education, Research and Innovation on Vocational Education and Training Lab-LABVET
University of the Balearic Islands
E-mail: elena.quintana@uib.es

Júlia Vilasís-Pamos

Department of Applied Pedagogy and Psychological Education, Research and Innovation on Vocational Education and Training Lab-LABVET
University of the Balearic Islands

E-mail: julia.vilasis@uib.cat

* Corresponding author

Abstract: Context: The recent expansion of Intensive Dual Vocational Education and Training (VET) in Spain calls for a clearer understanding of how and why students choose this modality over general VET programmes. **Aim:** This study examines the relationship between student profiles, prior academic pathways, and their subsequent specialisation choices, comparing patterns between Intensive Dual and general VET participants. **Theoretical Grounds:** The research is grounded in established theories of vocational choice and career construction, analysing how socio-educational background and career guidance factors influence learners' decisions and educational trajectories. **Methods:** A quantitative approach was applied to a representative cohort of 306 students in the Balearic Islands during the 2024–2025 academic cycle. Descriptive statistical analyses were conducted to identify differences in entry routes, motivations, and specialisation choices across both VET modalities. **Findings:** Program selection is largely influenced by personal preferences, the opportunity to earn a salary while training, and the potential for improved future working conditions. **Conclusion:** To promote equitable participation across VET modalities, implementing tailored guidance and flexible learning pathways that accommodate diverse learner profiles is essential.

This communication is part of the project R+D+i Completion and dropout pathways in intensive dual vocational training: empirical approach and recommendations (PID2023-149074OB-I00), funded by MICIU/AEI/ 10.13039/501100011033 and, as appropriate, by “ERDF A way of making Europe”, by “ERDF/EU”, by the “European Union” or by the “European Union NextGenerationEU/PRTR”.

Keywords: Dual VET, educational pathways, student profiles, career guidance, specialisation choice

Biographical notes:

Dr Maria Tugores Ques is a senior lecturer in the Department of Applied Economics at the University of the Balearic Islands (UIB). She specialises in the labour market, the economics of education and the economics of tourism. She has participated in several competitive projects focusing on school dropout rates, career paths, gender and the economic analysis of tourism.

Antoni Mestre-Hernández is a sociologist and PhD student at the University of the Balearic Islands. He is specialised in information networks, the transformative potential of the human factor and knowledge and quantitative research methodologies. He has worked on projects and carried out studies on dropout in VET.

Dr Elena Quintana-Murci is a senior lecturer at University of the Balearic Islands (UIB). Her fields of interest and research are early school leaving, vocational education and training, youth transitions to adulthood and gender. She is also the Deputy Director of the Laboratory for Research and Innovation in Vocational Education and Training-LABVET at the UIB.

Dr Júlia Vilasís-Pamos is a tenured contract senior lecturer at University of the Balearic Islands (UIB). Her main research areas are digital divide, labor imaginaries, youth studies, and gender. She has published in indexed journals and presented her work at high-impact international conferences.

National Hydrogen Workforce Studies and Just Transition: A Comparative Framework and Typology Across 13 Countries

Michael Gessler *

Institute of Technology and Education (ITB)

University of Bremen

E-mail: mgessler@uni-bremen.de

* Corresponding author

Abstract: Competency-based Education and Training (CBET) entered the British VET system in 1986 and subsequently spread internationally, supported by organizations promoting standardization and labour-market alignment. Drawing on a structural-functional perspective, this paper examines why CBET has been globally adopted despite persistent pedagogical critique. However, the strong focus on demonstrable performance narrows learning and risks overlooking experiential development, situated practice, and professional identity formation, and thus reduces the alignment between vocational learning and actual workplace practice. The paper argues for integrative models that combine outcome orientation with practice-based, workplace-anchored forms of vocational learning.

Keywords: CBET, Outcome-based Assessment, Workplace Learning

Context

Competency-based Education and Training (CBET) was formally introduced into the vocational education and training (VET) system in the United Kingdom in 1986, institutionalized through the National Council for Vocational Qualifications and the National Vocational Qualifications (NVQ) Framework (Jessup, 1991). The approach drew on developments in the United States beginning in the late 1950s and 1960s, including theories of observable behaviours, learning outcomes, mastery learning, and systemic instructional design (Glaser, 1962; Gagné, 1965; Bloom, 1968; Bertalanffy, 1968).

CBET spread internationally alongside reforms aimed at standardization, accountability, and labour-market alignment, and was actively promoted by international organizations. For example, the World Bank supported national competency systems as part of modernization reforms (Argüelles & Gonczi, 2000), and the International Labour Organization encourages competency- or outcome-based approaches (Comyn, 2022). The OECD has recently increased its strategic focus on VET, including the promotion of comparative performance assessments (Klassen, 2024).

Purpose

This paper provides an assessment of CBET forty years after its transfer into the British VET system, focusing on the tension between its governance efficiency and its educational limitations. The aim is to explain why CBET has been internationally successful, while simultaneously being perceived as pedagogically problematic.

Theoretical Grounds

CBET emphasizes outcomes rather than learning processes. Competence is defined as performance that can be demonstrated and assessed (Tuxworth, 1989). Key design principles include:

- Competency standards based on industry expectations
- Criterion-referenced assessment rather than norm-referencing
- Modularization and flexible, individualized learning trajectories
- Recognition of prior learning

- Industry-driven qualification design (Guthrie, 2009)

This framework prioritizes objectivity, comparability, and recognition. However, it reduces learning to measurable performance, which risks neglecting experiential development, situated practice, and professional identity formation—dimensions central to complex vocational competence.

Methods

The analysis applies a structural functional perspective to CBET as a policy instrument. It reconstructs:

- the historical transfer of CBET (USA → UK → international),
 - the relationship between CBET and National Qualifications Frameworks (NQFs) (Vargas, 2005),
 - and the system-level governance advantages emphasized by international organizations.
- The method examines how policy portability and administrative rationalization drive CBET adoption, even where pedagogical conditions are weak.

Findings

CBET's international success results primarily from its governance utility, not from pedagogical superiority.

Conclusions

Forty years after its introduction into British VET, CBET exhibits a dual character:

- It is highly effective in standardization, transparency, and policy transfer.
- It is educationally limited where vocational learning depends on situated practice, social learning, and identity development.

Future CBET-development should therefore shift from the either-or logic (outcome versus process) toward integrated models that combine outcome orientation with practice-based, workplace-anchored learning.

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Biographical notes

Dr Michael Gessler is professor at the Institute of Technology and Education (ITB) at the University of Bremen, Germany. His research focus on innovation in technical and vocational education and training.

Understanding the complexity around a ‘demand-led’ approach to skilling for the green transition

Presha Ramsarup*

Department of Education
Centre for Researching Education and Labour
University of Witwatersrand
E-mail: presha.ramsarup@wits.ac.za

* Corresponding author

Abstract:

Critical approaches to research are needed for understanding how work, skills and skills systems must change if we are to understand the systemic transitions that are needed to catalyse a greening VET system.

The paper draws on modelling data and data from multiple research studies investigating skills and the green transition in Africa. The paper investigates the institutions and institutional arrangements that underpin skills anticipation to support the green transition. and highlights how current skills anticipation mechanisms have struggled to remain agile and responsive. The paper also critiques the metaphor of ‘demand-led’, it tries to illustrate that while the concept of a demand-led skilling system for the green transition is logical and appealing, its practical implementation is complex, and it requires multi-levels of data and interventions. Furthermore, it argues that demand led is the wrong lens, because it directs our attention towards specific moving parts in isolation from the broader factors that shape them and presents some new methodological questions for skills systems.

Keywords: green transition, greenskills, skills anticipation

Biographical notes:

Prof Presha Ramsarup is Director at the Centre for Researching Education and Labour at the University of Witwatersrand, Johannesburg. Her research interest focuses on the impact of green transition on the world of work, what implications this has for educational preparation for work and learning pathways. Presha has a deep interest in the role of Vocational Education and Training in Africa and the access pathways for youth into intermediate work to facilitate a just transition.

Linking Vocational Archive Data Using Occupations and Education: Historical Insights and Contemporary Applications

Thomas Reiser*

Department of Computer Science
University of Koblenz

Jens Dörpinghaus

Federal Institute for Vocational Education and Training (BIBB)
Friedrich-Ebert-Allee 114-116, 53113 Bonn, Germany, and
University of Koblenz,
Universitätsstraße 1, 56070 Koblenz, Germany
E-mail: jens.doerpinghaus@bibb.de

Michael Tiemann

Federal Institute for Vocational Education and Training (BIBB)
Friedrich-Ebert-Allee 114-116, 53113 Bonn, Germany
E-mail: tiemann@bibb.de

Petra Steiner

Federal Institute for Vocational Education and Training (BIBB)
Friedrich-Ebert-Allee 114-116, 53113 Bonn, Germany
E-mail: steiner@bibb.de

* Corresponding author

Abstract: This paper presents a methodology for semantically enriching and linking historical vocational education documents using occupation-centric ontologies. Using digitised archives from the German Empire, GDR and FRG periods, comprising over 7,000 documents from 85 years, the study demonstrates automated classification approaches for German job titles mapped to standardised taxonomies, including KldB and ISCO. The methodology integrates phrase matching with 526,535 occupational variants and classification models with the German Labour Market Ontology, enabling cross-referencing across fragmented collections. Experimental results show that rule-based methods achieve a weighted precision of 0.82 for all occupations. However, challenges remain with generic titles and OCR quality. This approach enables longitudinal studies of vocational development and supports labour market research by linking implicit occupational references across temporal, political and institutional boundaries. It provides scalable solutions for computational social science applications.

Keywords: vocational education archives, occupational classification, linked data, German labor market, semantic annotation

Biographical notes:

Thomas Reiser is a research assistant at the Institute for Computer Science at the University of Koblenz, Germany. His research focuses on digital humanities and data science methods.

Dr Michael Tiemann is a senior researcher and co-head of the Department of Qualification, Occupational Integration and Employment at the Federal Institute for Vocational Education and Training (BIBB), Germany. His research interests focus on the development of occupational contents and requirements, knowledge in occupations and at the workplace, and the application of computational social science methods.

PD Dr Jens Dörpinghaus is postdoctoral researcher at Department 1, VET Research and Monitoring and Employment at the Federal Institute for Vocational Education and Training (BIBB), Germany. He is also lecturer (Privatdozent) at the University of Koblenz and Linnaeus University (LNU) in Växjö, Sweden. His research focuses on computational social science, data science methods, and big data analytics.

Petra Steiner is a senior researcher at the Federal Institute for Vocational Education and Training (BIBB).

Carrers@Steel: Addressing European Industrial Transformation Through Modular Vocational Education

Susanne Peters*

Institute Technology and Education
University of Bremen
E-mail: speters@uni-bremen.de

Lisa Meyne

Institute Technology and Education
University of Bremen
E-mail: lmeyne@uni-bremen.de

* Corresponding author

Abstract:

Across Europe, the steel industry faces unprecedented challenges from digitalization, decarbonization, and demographic change (Graupner, 2025; Murri et al., 2023). The Careers@Steel (*'Karrieren@Stahl'*) project develops demand-oriented, modular continuing education aligned with Germany's reformed advanced training levels (Fortbildungsstufen), addressing skills gaps critical to industry survival (Küster-Simic & Schönfeldt, 2022). Our research question explores how participatory design of occupational profiles strengthens employer attractiveness and workforce retention during structural transformation. Grounded in competence-oriented vocational education and social innovation, the project employs *expert workshops* (Howe & Sander, 2014) with 30 skilled workers from major steel companies in Germany to co-create validated curricula spanning steel production, finishing, and maintenance. Findings demonstrate social partners' consensus on industry-specific training requirements. This case exemplifies how European vocational systems can innovatively integrate formal and non-formal qualifications to secure skilled labor amid green transition and Industry 4.0. Conclusions offer transferable solutions for initial and further VET systems regarding energy-intensive sectors across Europe.

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Keywords: steel industry, further education and training, transformation, green skills, energy-intensive occupations

Biographical notes:

Dr Susanne Peters, postdoctoral researcher at the Institute Technology and Education (ITB) at the University of Bremen in Germany, researches vocational education and training with a focus on international cooperation, vocational training systems, and the transfer of educational models. Her interests cover the development of business models in VET, challenges in implementing dual apprenticeship systems internationally, and vocational training staff.

Lisa Meyne is a doctoral candidate and research associate at the Institute Technology and Education (ITB) at the University of Bremen in Germany. In national and international research and development projects, she focuses on the modernisation, digitalisation and networking of competence-oriented vocational education and training. Her research interests include e.g. the international transfer, complexity and innovation of vocational education and work process-oriented approaches in technical vocational education and training.

Examining the Issues in Implementing Secondary School Vocational and Professional Education Policies in Hong Kong through the Advocacy of School-based Vocational Training Programme

Hon-wing Hui*

HKICC Lee Shau Kee School of Creativity, Hong Kong

E-mail: joehui@creativehk.edu.hk

* Corresponding author

Abstract: The dominance of academic learning and public examinations in Hong Kong's senior secondary education system presents a significant challenge to the development of a diverse talent pool. Critics argue that this singular assessment model is detrimental to cultivating vocational skills and preparing young people for a competitive future. In response, the Hong Kong government initiated a review of vocational education in 2014, leading to its rebranding as Vocational and Professional Education and Training (VPET) in 2015. The final report in 2020 further integrated vocational education into the secondary school curriculum, encouraging schools to offer accredited school-based vocational training programmes. While some schools have adopted these programs to broaden student pathways, the lack of specific policy guidelines from educational authorities hinders their widespread implementation. This article examines the gap between policy advocacy and practical implementation through a review of relevant policies and stakeholder interviews, offering recommendations for future development.

Keywords: *education policy, school-based curriculum, secondary curriculum, vocational education*

Biographical notes:

Dr Hon-Wing Hui is the Consultant (School Management and Development) of HKICC Lee Shau Kee School of Creativity, Hong Kong. His research interests focus on education policy, school management and development, and technology in education.

Disrupting Australia's vicious VET circle: towards a sustainable VET schoolteaching workforce

Karen O'Reilly-Briggs*

Higher Education College

Box Hill Institute

E-mail: K.oreilly-briggs@boxhill.edu.au

Jacolyn Weller

School of Education

La Trobe University

E-mail: J.weller@latrobe.edu.au

Rochelle Fogelgarn

School of Education

La Trobe University

E-mail: R.fogelgarn@latrobe.edu.au

* Corresponding author

Abstract

The severe shortage of Initial Teacher Education (ITE) qualified VET schoolteachers in Australia negatively impacts the quality of VET available for students, compromising equitable opportunity for young people to become well-educated, vocationally prepared school graduates. Drawing on recent research, we present (a) a conceptualised vicious circle illustrating how industry experienced and vocationally competent Australians are denied the opportunity to gain an ITE VET schoolteacher qualification, and (b) a virtuous circle which presents a potential solution to this conundrum, based on International Specialised Skills Institute Fellowship data from Finland and Norway. Considered together, these vicious and virtuous circles suggest that the adoption of Scandinavian ITE practices could resolve Australia's persistent VET schoolteacher shortages. We argue that adopting Finnish and Norwegian practices could improve the quality of VET in schools, support mid-career industry experts to become VET schoolteachers, and enhance the status of VET in education and society.

Keywords Vocational education, Initial Teacher Education, schoolteachers, VET in schools

Biographical notes

Dr Karen O'Reilly-Briggs is a senior lecturer and academic course manager—education in the Higher Education College at Box Hill Institute, Australia. She is also the Secretary AVETRA. Her research interests include VET, VET teacher education, the teaching and learning of craft trades and apprenticeships, and the status of VET in society.

Dr Jacolyn Weller is a senior STEM lecturer at La Trobe University, Australia. She has over 20 years secondary-school teaching experience and a philosophy of experiential teaching. Her research focuses on teacher sustainability, innovative STEM-teaching, VET and design technology teacher shortages.

Dr Rochelle Fogelgarn is a lecturer in teacher education at La Trobe University, Australia. Following decades of school teaching and leadership, she now researches classroom management; transformative pedagogy; raising the status of VET in schools and sustainable, quality teaching practice.

Revocationalising vocational education and training: Comparing the cases of Sweden and Switzerland

Markus Maurer (first & presenting author)

Department of Upper Secondary and Vocational Education
Zurich University of Teacher Education, Switzerland
E-mail: markus.maurer@phzh.ch

Per Andersson (second author; not participating in the conference)

Department of Behavioural Sciences and Learning (IBL)
University of Linköping, Sweden
E-mail: per.andersson@liu.se

Abstract: Current comparative research points to a long-term academic drift across many education systems. While visible in rising higher-education participation and in vocational programmes increasingly oriented towards academic progression, this drift has also generated tensions. As a result, several countries are now experiencing forms of re-vocationalisation at upper-secondary level. This paper examines this phenomenon through a comparative case study of Sweden and Switzerland—two markedly different skill-formation systems. Drawing on historical institutionalism and Archer’s theory of the structural elaboration of educational systems, the analysis relies on policy documents, legal frameworks, curricula and consultation reports from the past two decades. Findings show that re-vocationalisation takes distinct forms and stems from different drivers. In Sweden, the strong integration of VET into an academically oriented gymnasium has prompted the creation of vocational packages to secure labour-market access. In Switzerland, VET’s intensified labour-market orientation risks undermining broader preparation for lifelong learning.

Keywords: comparative VET research; academic drift; vocationalisation; policy research

Biographical notes:

Markus Maurer is professor of vocational education at the Zurich University of Teacher Education. His research focuses on implementation of education and training policy reforms, adults in vocational education, and comparative analysis of education and training systems.

Per Andersson leads the research area in Vocational Didactics at Linköping University and conducts research on the marketisation of adult education and the professional development of vocational teachers. He is also Editor-in-Chief of the *Nordic Journal of Vocational Education and Training* and a member of the Nordyrk steering group.

Parallel session 3: VET Systems and Policies

Does Dual VET Buy More Time at Work?

Evidence from Germany and Switzerland to Labour market experience

Lucas Trutwin*

Catholic University of Eichstätt-Ingolstadt
WFI – Ingolstadt School of Management
Ostenstraße 26
85072 Eichstätt, Germany
E-Mail: lucas.trutwin@stud.ku.de

Andre Habisch

Catholic University of Eichstätt-Ingolstadt
WFI – Ingolstadt School of Management
Ostenstraße 26
85072 Eichstätt, Germany
E-Mail: andre.habisch@ku.de

Johannes Kellner

Catholic University of Eichstätt-Ingolstadt
WFI – Ingolstadt School of Management
Ostenstraße 26
85072 Eichstätt, Germany
E-Mail: johannes.kellner@ku.de

* Corresponding author

Abstract: This study assesses how educational pathways relate to labour market experience in Germany and Switzerland, 2013-2023. Using harmonised, representative household panels (SOEP and SHP) via the Comparative Panel File (CPF), we compare dual vocational education and training (dual VET), school-based VET, other upper-secondary routes, and tertiary education among adults aged 18-65. In both countries, individuals with dual VET accumulate more labour market experience than other groups. In Germany, dual VET is associated with more experience than school-based VET, other upper-secondary pathways, and tertiary education. In Switzerland, dual VET leads, closely followed by school-based VET; tertiary education shows similar levels. The advantage of dual VET is evident across ages and is especially pronounced at ages 25-34, highlighting early and lasting employment benefits. We argue that work-based learning is a key mechanism: it enables earlier entry into paid work and sustains continuous attachment to the labour market over the life course.

Keywords: Dual Vocational Education and Training (dual VET), Labour Market Experience, Comparative Education, Germany and Switzerland

Biographical notes:

Lucas Trutwin and Johannes Kellner are external PhD candidates supervised by Prof. Dr. Andre Habisch at the Catholic University of Eichstätt-Ingolstadt. Together, they conduct research on “The dual system of vocational education and training: labour market outcomes, entrepreneurial engagement, and institutional framework conditions.”

Integrated VET Centres in Spain: A Strategic Institutional Reform to Strengthen VET Governance and Responsiveness

Oriol Oms i Ferret

Sociologist. oriol.homs@gmail.com

Moso-Díez, Mónica

CaixaBank Dualiza's Knowledge and Innovation Center and the Vocational Training Research, mmoso@caixabankdualiza.es <https://orcid.org/0000-0002-0060-1549>

Mondaca Soto, Antonio

CaixaBank Dualiza's Knowledge and Innovation Center and the Vocational Training Research, amondaca@caixabankdualiza.es <https://orcid.org/0000-0001-5876-8950>

Ruano Bellido, Carlos

CaixaBank Dualiza, cruano@caixabankdualiza.es

Abstract:

Vocational education and training (VET) systems across Europe are under increasing pressure to become more flexible, inclusive, and responsive to evolving economic, social, and technological demands (Cedefop, 2020; OECD, 2021). Institutional innovation—particularly the integration of initial and continuing VET under unified governance structures—has emerged as a key lever for improving system-level coordination, lifelong learning, and labor market alignment (ETF, 2020; Busemeyer & Trampusch, 2012).

In this context, Spain's 2022 VET reform (*Ley Orgánica 3/2022*) positions Integrated VET Centres (CIFPs) as strategic hubs for delivering both youth and adult training, career guidance, upskilling, and reskilling services (CaixaBank Dualiza, 2025). This paper presents findings from a national study that employed a mixed-methods design—including a survey of one-third of Spain's CIFPs, 60 interviews with directors, and four stakeholder workshops—to analyze the current role and future prospects of these institutions.

Findings show a 57.7% growth in CIFPs between 2022 and 2024, but with strong regional disparities: regions like Navarre and the Basque Country show strong adoption, while Andalusia and Madrid lag behind. Despite their relatively small share of the total VET system (6.9%), CIFPs act as regional centers of excellence and innovation. However, the study identifies four structural challenges: (1) limited employer engagement in dual training (Bonoli, 2010), (2) low institutional autonomy (Cedefop, 2016), (3) weak leadership professionalization (Grollmann & Rauner, 2007), and (4) unstable staffing and limited pathways for professionals from industry (Powell & Solga, 2011).

These challenges resonate with international literature on VET governance, which emphasizes the importance of multi-level coordination, professional leadership, and stakeholder engagement (Psifidou et al., 2021; Clarke & Winch, 2006; ETF, 2020). The paper proposes a territorialized expansion strategy: cross-sectoral CIFPs in metropolitan areas and multi-purpose centres in rural regions, supported by adequate investment and regulatory flexibility (Deissinger et al., 2011; Raggatt & Williams, 1999).

Spain's CIFP model offers valuable lessons for other countries aiming to modernize their VET systems. It illustrates how meso-level institutional reform can contribute to broader systemic

transformation—integrating lifelong learning, improving governance, and supporting economic resilience in a context of rapid change (Pilz, 2016).

Keywords:

VET systems; institutional governance;; VET schools; lifelong learning; Spain.

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Dual apprenticeship transfer to Bulgaria: What role(s) do plural international stakeholders play?

Christian Imdorf*

Institute of Philosophy and Sociology at the Bulgarian Academy of Sciences
Institute of Sociology, Leibniz University Hannover
E-mail: christian.imdorf@ips.bas.bg

Johannes Karl Schmees

Institut für Erziehungswissenschaft, Technische Universität Berlin
Institute of Education and Skills, University of Derby
E-mail: j.schmees@tu-berlin.de

Rumiana Zheleva

Institute of Philosophy and Sociology at the Bulgarian Academy of Sciences
E-mail: rumiana.zheleva@ips.bas.bg

* Corresponding author

Abstract:

This paper examines the transfer of dual apprenticeship (DA) elements from Germany, Austria and Switzerland (DACH) to Bulgaria, a country with a history of sovietic and school-based vocational education, grappling with brain drain and skills shortages. Aimed at assessing these plural transfers' impact in a context of increasing European influence towards DA, in particular through discourses and funding, the study applies sociological institutionalism and Phillips & Ochs' policy borrowing model. Employing multiple case studies and interviews with stakeholders, it investigates interactions among the DACH countries as well as the effectiveness and sustainability of their initiatives. Findings reveal minimal planned coordination but obvious interactions among DACH stakeholders, resistance from unions and local stakeholders as well as uneven involvement of businesses in the implementation phase. The study concludes that understanding the complexities of plural international policy transfer initiatives is vital for understanding the challenges of reforming an education system through policy learning.

Keywords: Dual apprenticeship transfer, Bulgaria, policy learning, international stakeholders

Biographical notes:

Dr. Christian Imdorf is a Professor of Sociology of Education at Leibniz University Hannover, and currently holds the ERA Chair ProSkills2Work at the Bulgarian Academy of Sciences. The focus of his ongoing research is on vocational education and training (VET) and transitions from VET to work and higher education in Europe.

Dr. Johannes K. Schmees is Associate Professor for Technical and Vocational Education and Training at the Institute of Education and Skills, University of Derby and Visiting Professor of Vocational Education at Berlin University of Technology. His research interests lie in international and comparative research on vocational education systems.

Dr. Rumiana Zheleva is Professor of Sociology at the Institute of Philosophy and Sociology at the Bulgarian Academy of Sciences. She has a strong background in research on socio-economic inequalities, sustainable development, regional imbalances, urban health and well-being, entrepreneurship, labour market, skills and human development.

Historical Vocational Education Transformations and Contemporary AI Curriculum Development: Lessons from 19th Century Germany

Jens Dörpinghaus*

Federal Institute for Vocational Education and Training (BIBB)
Friedrich-Ebert-Allee 114-116, 53113 Bonn, Germany, and
University of Koblenz,
Universitätsstraße 1, 56070 Koblenz, Germany
E-mail: jens.doerpinghaus@bibb.de

Michael Tiemann*

Federal Institute for Vocational Education and Training (BIBB)
Friedrich-Ebert-Allee 114-116, 53113 Bonn, Germany
E-mail: tiemann@bibb.de

* Corresponding author

Abstract: The rapid emergence of artificial intelligence technologies poses challenges for curriculum development that are comparable to those encountered during the industrialisation of Germany in the 19th century. This paper examines the transformation of vocational education in metalworking professions during Germany's Industrial Revolution, analysing how guild-based craft training evolved into formalised industrial education between 1810 and 1926. The study identifies key tensions between traditional apprenticeship systems and emerging industrial requirements, particularly the discrepancy between handcraft qualifications and the demands of factory work. Drawing parallels with contemporary challenges associated with the integration of AI, the research demonstrates how 19th-century stakeholders navigated issues such as skill obsolescence, qualification standardisation, and institutional resistance. The analysis reveals that the successful transformation of the curriculum required the coordinated efforts of industry, government and educational institutions, ultimately leading to the establishment of the dual education system. These historical insights inform current debates about AI literacy, suggesting that effective AI curriculum development requires similar multi-stakeholder collaboration, flexible qualification frameworks and an acknowledgement that technological disruption necessitates systemic, rather than incremental, educational reform.

Keywords: vocational education history, curriculum development, artificial intelligence education, industrial transformation, Germany

Biographical notes:

Dr Michael Tiemann is a senior researcher and co-head of the Department of Qualification, Occupational Integration and Employment at the Federal Institute for Vocational Education and Training (BIBB), Germany. His research interests focus on the development of occupational contents and requirements, knowledge in occupations and at the workplace, and the application of computational social science methods.

PD Dr Jens Dörpinghaus is postdoctoral researcher at Department 1, VET Research and Monitoring and Employment at the Federal Institute for Vocational Education and Training (BIBB), Germany. He is also lecturer (Privatdozent) at the University of Koblenz and Linnaeus University (LNU) in Växjö, Sweden. His research focuses on computational social science, data science methods, and big data analytics.

Challenging the unequal access of adults to VET

Sandra D'Agostino*

Department of VET

INAPP – National Institute for Public Policy Analysis

E-mail: s.dagostino@inapp.gov.it

Silvia Vaccaro

Department of VET

INAPP – National Institute for Public Policy Analysis

E-mail: s.vaccaro@inapp.gov.it

* Corresponding author

Abstract:

Adult learning is receiving more and more attention, thanks to the multiple transformations being experienced by European countries, with a particular focus on low-skilled and low-educated adults. We examined the strategies that some European countries are pursuing to overcome inequalities in access to training, promote the upskilling and reskilling of workers, introduce tools supporting an individual's right to training with the aim of analysing convergences and divergences, and taking suggestions for Italy.

The results highlight a significant commitment to promoting adult learning, a variety of projects and initiatives involving several stakeholders. The most innovative projects follow a cooperative approach where public and private entities are entrusted with the task of comprehensively caring for individuals by providing responses to their different needs. However, these interventions usually are not supported by a strategic vision, coherent policies, and adequate financial investments. The result is a landscape characterized by a significant fragmentation of resources that often fails to reduce inequalities in adult participation to learning.

Keywords: Adult learning, VET policies, access to learning, inequalities

Biographical notes:

Sandra D'Agostino is a senior researcher at the Department of VET at INAPP, which is the research institute operating for the Italian Ministry of Labour. Her research interests focus on comparative analysis of VET systems, assessment of prior knowledge, quality assurance in VET, work-based learning and adult learning.

Critiquing the global VET toolkit

Stephanie Allais*

Centre for Researching Education and Labour

University of the Witwatersrand

E-mail: stephanie.matseleng@gmail.com

Simon McGrath

School of Education

University of Glasgow

E-mail: simon.mcgrath@glasgow.ac.uk

* Corresponding author

Abstract

Drawing on the lessons of a combined 50+ years of academic and policy work, we provide a critique of the current dominant approaches to VET policy and system development globally. We focus primarily on the powerful Anglophone global VET toolkit, whilst noting the continuing fascination of the Germanic approach. We outline the key elements of the approaches, and critique their internal logics and implementation, as well as considering why they remain so popular. We argue that in different ways, both attempt to emulate aspects of the ‘collective skill formation systems’, without the underlying conditions and relationships being in place. The result is systems in which ministers and senior officials continue to pull levers that are unconnected to the key mechanisms that are required for effective change, and a veneer of busyness to systems that are crumbling.

Keywords: Policy, implementation, global VET toolkit.

Biographical notes:

Stephanie Allais is the NRF-SARChI Research Chair for Skills Development and Professor of Education at the Centre for Researching Education and Labour at the University of the Witwatersrand. She is an educational sociologist, focused on education/work relationships, and national and international policies and implementation directed to these relationships.

Simon McGrath holds the Established Chair in Education at the University of Glasgow. He works on a range of aspects of the education-development relationship, particularly on skills development, vocational learning and diverse forms of work, and on integral human development.

Why do evaluators involve in practical examinations: opportunism or altruism?

David JAN*

Department of Education and Teaching Sciences

University of Fribourg, Switzerland

E-mail: david.jan@unifr.ch

* Corresponding author

Abstract:

In Switzerland's dual vocational education system, practical examinations play a pivotal role in assessing apprentices' skills, and evaluators are crucial in this process. Despite being optional, demanding, and poorly paid, some evaluators remain committed for decades. This study investigates the factors driving such commitment. The theoretical framework is grounded in two validated self-report instruments: the Work Commitment Scale (Schaufeli & Bakker, 2003) and the Volunteer Functions Inventory (VFI) (Clary & Snyder, 1999), complemented by measures of perceived cost (working unpaid, personal time and pursuing training). A face-to-face questionnaire was administered to 261 evaluators. The data were analysed using hierarchical regression in three steps. Initial variables (age, experience, pedagogical and job-related training) only explained a small amount of the variance in commitment. Adding VFI and concession measures increased explanatory explains more strongly (adjusted $R^2 = 0.444$). Results suggest that evaluators' commitment is primarily driven by altruistic motivations rather than instrumental or self-interested considerations.

Keywords:

dual vocational education system; evaluators commitment; hierarchical regression

Biographical notes:

Dr David JAN is a lecturer at the University of Fribourg, Switzerland. His research and teaching focus on dual vocational education and training. In particular, he focuses on assessment and the motivational aspects of assessors in final examinations.

The historic legacies of veterinary nursing education

Sarah Batt-Williams,

Clinical Science and Services
The Royal Veterinary College,
sbattwilliams@rvc.ac.uk

Abstract: This lecture will trace the evolution of veterinary nursing in the UK from its informal origins to its contemporary form. Through a socio-historical and critical analysis of archival material, professional records, and personal accounts, it examines how veterinary nursing has navigated the intersecting forces of gender, class, and professional hierarchy. This lecture argues that while formalisation and regulatory reform brought legitimacy and visibility to the profession, they also reinforced historic legacies. This lecture will highlight how veterinary nursing's educational journey reflects broader tensions between care and control, empowerment and subordination, that continue to shape its trajectory within the contemporary veterinary landscape. This will all be themed within professional identity formation, an unexplored topic within veterinary nursing thus far. This is currently in the context of the UK, but topics will be generalisable to the individuals' own practicing location and the audience will be asked to reflect on this throughout.

Keywords: Professional Identity, Veterinary Nursing, VN education

Biographical notes: (Four lines, Font size 12)

Sarah Batt-Williams is a Registered Veterinary Nurse and the Course Director of the undergraduate degrees in Veterinary Nursing at the Royal Veterinary College. She is also an MPhil/PhD student at the Institute of Education, University College London, exploring the professional identity formation of Student Veterinary Nurses in the United Kingdom.

The Future of Work, Youth Skills, and VET in Times of Uncertainty and Crisis from Perspectives of Different Actors: Policy, Local Employers, TVET Lecturers and Students

Dr. Mixue Li

Research Fellow, School of Education, Tsinghua University, China
& Honorary Assistant Professor, School of Education,
University of Nottingham, UK

Email: mixueli@tsinghua.edu.cn

The accelerating transformation of the world of work—driven by digital technology, such as artificial intelligence (AI) (Harteis, 2017), and the cascading effects of global crises, such as COVID-19, global geopolitical tensions (Buchanan et al., 2020; World Bank, 2020), —has intensified concerns about the future of work and skills. It has been predicted that by 2030, approximately 3% of the global workforce will need to transition to new occupations, and highly structured or physically intensive jobs will decline substantially (McKinsey Global Institute, 2017). And by 2055, nearly half of all tasks currently performed by humans may be automated (McKinsey Global Institute, 2017). These trends underscore an increasingly urgent demand for higher-skilled labour. This logic of labour market demand-driven always critiques the out-of-date vocational education not able to supply future work-ready workforce, bringing about the skills mismatch discourse.

We have observed how global and national policy discourses construct the notion of a skills mismatch, creating a fetishisation of (future) skills (Wheelahan, Moodie, & Doughney, 2022). China, similar arguments are used to explain the perceived gap between labour-market demands and vocational education provision, thereby generating a strategic sense of urgency around cultivating a high-skilled workforce (Wang, 2023). The fading demographic dividend, the relocation of global manufacturing to Southeast Asia, and the shortage of innovative skilled workers together amplify the risk of falling into the “middle-income trap” (Doner & Schneider, 2016). Moreover, the talent gap in the era of intelligent technologies remains acute: an estimated 26% mismatch persists between the skills produced by vocational colleges and the needs of enterprises (Song & Xu, 2024).

With the rising youth precarity and structural unemployment, policy discourses increasingly call on vocational education and training (VET) systems to accelerate the development of digital competence, AI literacy, and “future skills.” (Hao & Shi, 2020; Xiao, 2019). Within this narrative, TVET institutions are framed as failing to supply sufficient or sufficiently skilled graduates, and upskilling the future workforce is presented as the key solution (Wheelahan, Moodie, & Doughney, 2022). This produces what may be termed a technology of discursive urgency: if workers and institutions fail to ‘upskill’, they risk being rendered obsolete. Critics argue that such narratives remain deeply embedded in human capital theory, positioning education and individuals—rather than structural economic forces—as responsible for resolving skills mismatch (Allais, 2011; 2022). Yet, under rising global uncertainty and crisis, scholars increasingly contend that human capital theory fails to adequately capture the complex social, cultural, and structural factors shaping youth transitions and labour markets (Brown, Lauder, & Cheung, 2020).

Despite the prominence of these global narratives through policy analysis, relatively little is known about how such discourses of future skills are interpreted and made meaningful by the actors operating at different levels of VET ecosystems. How these narratives intersect or diverge from the lived experiences, expectations, and values of lecturers, employers, students, and graduates still need further attention. This research-in-progress seeks to contribute to the broad discussion on future work and skills by asking: How do different actors understand the future of work and

skills under conditions of global uncertainty and AI-driven transformation? How do these interpretations shape expectations of VET and its role in preparing young people for uncertain work futures?

Preliminary insights come from an initial field visit to a VET college in Fujian Province, China. Discussions with a small group of lecturers revealed perspectives that contrast sharply with global narratives predicting declining job opportunities. The lecturers and local employers depicted a labour market characterised by continual demand and plentiful vacancies. Although the basis for their calculations remained unclear, they reported student employment rates continued to be exceeding 95% (which needs further investigation). A striking contradiction emerged between their emphasis on preparing students for future digital and AI-related skill demands—through curriculum updates and technology-focused training—and their simultaneous insistence on the importance of basic moral and service-oriented qualities, which they believed distinguished VET students from university graduates yet were increasingly lacking among current cohorts. When asked which skills they considered most crucial for today's graduates, they prioritised not technical digital competencies but work attitudes, especially what they referred to as the ability to “endure hardship” (吃苦耐劳, *chiku nailao*) and to perform basic service tasks, such as “serving tea and water” (端茶送水, *duancha songshui*). According to these lecturers and employers, many students now aspire to office-based or more comfortable work environments and are unwilling to undertake physically demanding or low-status roles.

These early observations raise important conceptual questions about how “future work” and “future skills” are constructed by different actors. They suggest that global narratives of technological disruption may be unevenly experienced or differently understood in local labour markets. They also indicate that expectations of young people—framed in terms of moral character, endurance, or employability attributes—may reflect deeper cultural, economic, and institutional logics. The use of these moral dispositions by lecturers may conceive an underlying prejudiced assumptions of TVET students in lower social and technical status and positions.

To investigate these issues more fully, the study employs a multi-method qualitative design. First, a systematic document analysis of international and national policy frameworks related to AI, digital transformation, VET and youth skills will examine the assumptions embedded in policy narratives concerning future employability and skills mismatch. Second, semi-structured interviews with employers, VET lecturers, students, and recent graduates will explore diverse perceptions of current work realities, labour-market opportunities and constraints, and the skills deemed necessary for short- and long-term employability.

By comparing policy narratives with the situated interpretations of frontline actors, this research aims to illuminate the tensions and disjunctures between global visions of the future of work and local labour-market realities. It offers an analytical lens for understanding how VET systems are shaped by global–local dynamics while foregrounding youth agency and aspirations in shaping work trajectories. Rather than assuming a unified definition of work, skills, or employability, this study conceptualises them as contested constructs formed through multiple, sometimes conflicting, expectations and socio-economic conditions.

As an early-stage study, this research does not seek to draw definitive conclusions. Instead, it opens a conceptual space for questioning how different actors imagine the future of work and skills and how these imaginaries inform the direction and purpose of VET reform under global uncertainties and crisis. Initial insights point to the need for reimagining VET in ways that recognise diverse labour-market contexts, heterogeneous youth aspirations, and the tensions produced when global narratives encounter local realities. Ultimately, this study argues that understanding employability

in times of uncertainty requires moving beyond narrow skill-based frameworks toward a more contextualised analysis of how work, youth, and VET are co-shaped by global disruptions and local expectations.

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On International Comparisons and National Legitimization Strategies of VET Policies in the German Democratic Republic (1969-1989)

Stefan Udelhofen*

Federal Institute for Vocational Education and Training (BIBB), Bonn, Germany

E-mail: Stefan.udelhofen@bibb.de

* Corresponding author

Abstract: The abstract should keep to **140 to 150** words. The abstract should include: context, aim or purpose, theoretical grounds, methods, findings and conclusions. Font size 12

Following the reunification of the Federal Republic of Germany (FRG) and the German Democratic Republic (GDR) in the 1990s, the GDR's vocational education and training (VET) system was largely dismantled and incorporated into the FRG's coordinated market economy. Portraying the GDR as outdated, bankrupt and unjust. This paper aims to provide a deeper understanding of socialist VET policies, challenging West Germany's interpretative authority in the process. Drawing on theoretical insights from cultural political economy, the paper conducts a discourse analysis of the journal "Forschung zur sozialistischen Berufsbildung" (1969–1989), the central research publication of VET in the GDR. It demonstrates how the socialist VET system sought to justify its theoretical, ideological and practical differences in comparison to other VET systems, particularly West Germany's. This nuanced examination opens up further opportunities for discussion on topics such as resilience, democratic education, sustainability and VET in a post-growth society.

Keywords: History of Vocational Education | German Democratic Republic | VET systems and policies | resilience | comparative history

Biographical notes: (Four lines, Font size 12)

Stefan Udelhofen is a research associate at the Federal Institute for Vocational Education and Training (BIBB) in Bonn, Germany. His research interests focus on the history of vocational education and training, the socio-technical transformation of labour markets and educational systems, the history of digitalisation, and critical studies of media industries.

E-learning Technologies for Professional Development: Vocational Teachers' Use and Acceptance

Klein, Paula, University of Cologne, Germany
Nokelainen, Petri, Tampere University, Finland
Pilz, Matthias University of Cologne, Germany

Abstract

The digital transformation is changing how work is structured and performed, compelling VET systems to keep pace with new forms of expertise and workplace change. Vocational teachers, who operate at the intersection of educational practice and labour market demands (Orozco et al., 2021), are particularly affected in terms of both their instructional content and their professional development (PD). Although digitalisation is recognised as one of six major trends influencing vocational teaching (European Training Foundation, 2020), its implications for teachers' roles and working environments remain insufficiently explored.

Although digital tools offer greater flexibility in PD (Creemers et al., 2012; Morina et al., 2023), their adoption signifies more than a change in delivery methods. Rather, it reflects a broader transformation in the structure of teachers' work, requiring new levels of autonomy and digital competence. Online PD (OPD) formats, including synchronous, asynchronous and hybrid approaches, allow flexible and scalable learning opportunities (Meyer et al., 2023). By addressing constraints related to time, distance and access to expert knowledge, asynchronous OPD formats have become key mechanisms for sustaining teacher learning, which is why they are the focus of this research.

This study examines how asynchronous OPD is reshaping vocational teachers' daily practices and professional identities. While much of the existing literature on OPD focuses on general education, little empirical research has been conducted in the VET context. This is a significant gap, given that vocational teachers must regularly adapt to instructional innovation and sectoral evolution (Hagedoorn et al., 2025).

To explore this, the study applies the Unified Theory of Acceptance and Use of Technology (UTAUT; Venkatesh et al., 2003, 2016; Taherdoost, 2018) to investigate the acceptance and use of e-learning technologies for PD of at least 120 vocational teachers in Belgium, the Czech Republic, Finland, and Germany. A UTAUT-based survey instrument, tailored to VET-specific institutional and occupational conditions, guides the study through four research questions:

- (1) To what extent does the perceived relevance of e-learning content influence vocational teachers' intention to use these technologies for professional development?

- (2) How does the perceived ease of use relate to vocational teachers' intention to engage with e-learning for professional development?
- (3) How do social influences from colleagues, administrators, and educational authorities shape vocational teachers' acceptance and use of e-learning technologies?
- (4) What role do organisational and technical support systems play in vocational teachers' adoption of e-learning technologies for professional development?

To address the research questions, the analysis will be conducted using the R programming environment, following transparent and reproducible statistical practices. Given the multilevel structure of the data (teachers nested within countries), the initial plan is to test for invariance across countries by first inspecting descriptive statistics and visual comparisons between national subsamples. If substantial between-country variation is observed, country will be included as a fixed effect covariate or used as a grouping variable in multigroup models. Alternatively, if between-country variation is small and sample sizes are balanced, aggregated models controlling for country differences will be used. Initial data cleaning and exploration will involve descriptive statistics and visualization of variable distributions. The associations between key variables - such as perceived relevance, ease of use, social influence, and organizational support - and the intention to use e-learning technologies will be examined using Kendall's tau-b correlation coefficients. To further evaluate the predictive relationships specified in Research Questions 1 through 4, multiple linear regression models will be fitted. Each model will treat teachers' intention to use e-learning technologies as the dependent variable, with the relevant UTAUT predictors (e.g., perceived relevance, ease of use, social influence, and organizational support) entered as independent variables.

With this analysis, the research contributes to a deeper understanding of how digitalisation is influencing PD formats and, in turn, reshaping the professional landscape of vocational teachers. The findings inform ongoing discussions on how VET systems should respond to the reconfiguration of work by adapting PD frameworks, institutional support structures, and conceptions of vocational knowledge. Additionally, the study provides an empirical basis for refining theoretical models like UTAUT in digitally evolving, sector-specific educational environments.

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Innovating Vocational Education and Training – Creating Permeability. A German Perspective (based on the InnoVET programme)

Hubert Ertl

Federal Institute of Vocational Education and Training
Friedrich-Ebert-Allee 114-116, Bonn, Germany
and
Paderborn University
Warburger Str. 100, Paderborn, Germany
E-Mail: ertl@bibb.de

Nina-Madeleine Peitz*

Federal Institute of Vocational Education and Training
Friedrich-Ebert-Allee 114-116, Bonn, Germany
E-Mail: nina.peitz@bibb.de

* Corresponding author

Abstract:

The German VET system is internationally recognized but continues to face challenges in achieving permeability between vocational and academic pathways. The nationwide **InnoVET** programme (2020–2024) piloted innovative models to address this gap. This includes, e.g., ensuring that vocational and academic education are on an equal footing by offering advanced training courses for skilled workers, through close cooperation between learning sites and among diverse stakeholders. This paper examines how stakeholder management supports permeability by fostering participatory collaboration among research, practice, and policy. Permeability is defined as the facilitated transitions across educational levels and sites, necessitating complex coordination and networking. Empirical evidence is drawn from interviews with project stakeholders, alongside programme reports and related publications. Results emphasize, e.g., the significant role the interaction between research, practice and policy plays. Stakeholder management serves as a crucial interface, aligning varied interests and resources to enable innovative educational formats. Key enablers include transparent communication, participative decision-making, and well-defined roles. Such practices are vital for enhancing permeability within an integrated VET ecosystem, balancing scientific rigour, practical applicability, and policy frameworks.

Keywords: accompanying research, permeability, vocational education and training programmes, innovation transfer, stakeholder management, InnoVET, research-practice communication Stockholm International Conference on Research in VET Abstract

Biographical notes:

Prof. Dr. Hubert Ertl is Vice President and Director of Research of the Federal Institute for Vocational Education and Training in Bonn, Germany. He also holds a professorship for vocational education research at Paderborn University, Germany. The focus of his research is on areas including transitions between vocational and university-level education, international comparative research on higher education, European education and training policy, and the introduction and implementation of education and training reforms.

Dr. Nina-Madeleine Peitz is a programme researcher in the division of the research director at the Federal Institute of Vocational Education and Training in Bonn, Germany. She holds a doctorate in business education and a master's degree in international economics and management. Her research interests focus on InnoVET research support and programme management, successful and sustainable VET cooperations, translation processes and innovation transfer between science and practice, as well as language and communication in VET.

Symposium: Migration and skill development

Refugee Inclusion in Work-Based Learning at Tertiary Level: Exploring Opportunities and Barriers in Kenya and Ethiopia

Amir Radfar

TVET Officer, Education Section, Copenhagen

United Nations High Commissioner for Refugees (UNHCR)

Email: radfar@unhcr.org

Abstract (max 300 words):

Work-based learning (WBL) is widely recognised as essential to improving youth employability. Yet refugee students, especially at the tertiary level, face significant barriers to accessing WBL due to legal, institutional, and socio-economic constraints. This paper introduces the design of an ongoing study commissioned by UNHCR under the PROSPECTS partnership in Kenya and Ethiopia. The research explores refugee access to WBL opportunities, institutional engagement with employers, and factors affecting participation, including gender and legal status. Though final data will be available in 2026, the presentation will share early reflections and identify major evidence gaps. It also highlights the need to mainstream refugee inclusion in VET-related research, which remains underexplored despite global policy priorities. This paper is part of the proposed symposium “Including Refugees in TVET Systems,” developed with CGD and EfVET, aimed at bridging research and policy for more inclusive VET systems.

Keywords:

Refugees, Work-Based Learning, Employability, Tertiary VET and Inclusion

Biographical notes:

Amir Radfar is the TVET Officer in UNHCR’s Education Section, leading global work on refugee inclusion in vocational education.

He has over 25 years of experience in skills development, quality assurance, and system integration. He has consulted for agencies including UNESCO, UNEVOC, UNEP, UNESCAP, OHCHR, and GIZ. His work spans TVET reform, labour-market linkages, and institutional capacity development

From Vulnerability to Agency: Inclusive VET Practices Supporting Migrant Youth in Europe

Paolo Nardi*

European forum of Technical and Vocational Education and Training
E-mail: director@efvet.org

Emilio Dogliani

European forum of Technical and Vocational Education and Training
E-mail: emilio.dogliani@efvet.org

* Corresponding author

Abstract:

Across Europe, rising migration flows have intensified the need for effective vocational education and training (VET) pathways that foster both inclusion and identity development among young migrants and refugees. This paper aims to examine how VET can support vulnerable learners through personalised, work-based, and relational pedagogies. Grounded in theories of socio-emotional learning, identity formation, and naturalistic qualitative inquiry, the study draws on a case analysis of Cometa's "Minimaster" programme in Como, Italy, complemented by selected examples from the broader European VET ecosystem that demonstrate similar inclusive approaches. Methods include semi-structured interviews with migrant learners, staff members, and local stakeholders, analysed through constant-comparative techniques. Findings highlight migrants' complex journeys, the transformative role of personalised tutoring and company engagement, and the importance of balancing cultural identity with labour-market integration. The study concludes that inclusive VET models—such as Cometa and comparable European practices—can strengthen resilience, employability, and social belonging among young migrants.

Keywords: Inclusion; Migration; Identity Development

Biographical notes:

Paolo Nardi is Executive Director of the EfVET and coordinator of the Inclusive Vocational Excellence, Wellbeing and Bienvivance Working Group developed by EfVET, World Education Research Association WERA, Inner Development Goals IDG and Karanga. Expert in VET namely its intersection with inclusion, social emotional learning and wellbeing.

Linking Labour Migration and Skill Development

Helen Dempster

Co-Director and Policy Fellow, Migration and Displacement Programme
Center for Global Development
E-mail: hdempster@cgdev.org

Marcel Ricou

Acting Director, Education Practice
IREX
E-mail: mricou@irex.org

* Corresponding author

Abstract: This paper examines how linking labour migration with technical and vocational education and training (TVET) can enhance the effectiveness and development impact of skills investments. In the face of shrinking aid budgets and global skill shortages, aligning TVET with international labour mobility—particularly in green sectors—can deliver a “triple win”: improving employment outcomes, filling skill gaps in destination countries, and strengthening institutions in origin countries. Drawing on global initiatives, the paper identifies two key approaches: aligning training with employer needs and recognizing qualifications across borders through Mutual Recognition Agreements or international accreditation. Complementary measures such as language training, cultural orientation, and sustainable financing are also discussed. The paper concludes with recommendations for TVET institutions and donors to design programs that integrate mobility pathways and ensure shared benefits across countries.

Keywords: TVET, Migration, Employment

Biographical notes:

Helen Dempster is a programme co-director and policy fellow for the Migration and Displacement Program at the Center for Global Development. Prior to joining CGD, she worked for five years in research communications at the Overseas Development Institute (ODI) and the International Growth Centre (IGC). Dempster holds a MicroMasters in Data, Economics and Development Policy from MIT, a master’s in Africa and International Development from the University of Edinburgh, and undergraduate degrees in Law, Public Policy and International Relations from Victoria University of Wellington, New Zealand.

Marcel Ricou is the Acting Director of the Education Practice, helping lead IREX’s strategy and learning agenda for expanding access to quality and relevant education and training globally. Until recently, he served as project director for the Kosovo Private-Sector Led Workforce Development Activity which aimed to harness the leadership of the private sector to better align worker skills with market needs leading to improved livelihoods for Kosovars and economic productivity in Kosovo. Marcel holds a Master of Arts degree in international relations and economics from the Johns Hopkins University School of Advanced International Studies and a Bachelor of Arts in international relations from Franklin University Switzerland.

SYMPOSIUM: TVET in the Malaysian context

Technical and Vocational Education and Training (TVET) Ecosystem in Malaysia: Policies, Accreditation, and Workforce Development

Haryanti Mohd Affandi*

Department of Engineering Education
Faculty of Engineering and Built Environment
The National University of Malaysia
E-mail: haryantima@ukm.edu.my

Mohd Fahmi Ghazali

Pusat Kajian Perniagaan Global & Ekonomi Digital (GLOBDE)
Fakulti Ekonomi dan Pengurusan
Universiti Kebangsaan Malaysia
E-mail: fahmi@ukm.edu.my

Lam Meng Chun

Pejabat Dekan Fakulti Teknologi & Sains Maklumat,
Fakulti Teknologi & Sains Maklumat
Universiti Kebangsaan Malaysia
E-mail: lammc@ukm.edu.my

Anies Faziehan Zakaria

Jabatan Pendidikan Kejuruteraan, Fakulti Kejuruteraan dan Alam Bina, Universiti Kebangsaan Malaysia
Email : aniesfaziehan@ukm.edu.my

Sharizal Hashim

Pejabat Dekan Fakulti Ekonomi & Pengurusan,
Fakulti Ekonomi dan Pengurusan, Universiti Kebangsaan Malaysia
Email : hsharizal@ukm.edu.my

Ridzwan Che Rus

Jabatan Sains Pertanian,
Fakulti Teknikal dan Vokasional,
Universiti Pendidikan Sultan Idris
Email : ridzwan@ftv.upsi.edu.my

Mohd Firdaus Mustaffa Kamal

Jabatan Teknologi Kejuruteraan,
Fakulti Teknikal dan Vokasional,
Universiti Pendidikan Sultan Idris
Email : firdaus.mk@ftv.upsi.edu.my

* Corresponding author

Abstract:

This study explores the ecosystem of Technical and Vocational Education and Training (TVET) in Malaysia. TVET plays a vital role in developing a highly skilled workforce aligned with current industry needs and the aspirations of the New Industrial Master Plan 2030. This study employed a descriptive qualitative approach through benchmark analysis and focus group discussions involving 164 experts from 12 Ministries offering TVET program, TVET-related agencies including the Ministry of Economy, Ministry of Finance, and the National TVET Council (MTVET). Through an analysis of key policies such as the Twelfth Malaysia Plan (RMK-12), the Education Act 1996, and the National Skills Development Act 2006, the findings reveal that Malaysia's TVET system is evolving toward quality enhancement, accreditation harmonization, and improved graduate employability. The landscape is governed by two main bodies—the Department of Skills Development (JPK) and the Malaysian Qualifications Agency (MQA)—which ensure consistent standards and program accreditation. The study emphasizes the importance of industry collaboration, flexible learning pathways, and technological integration in strengthening the TVET Madani agenda to develop a competitive, future-ready skilled workforce that meets national economic demands.

Keywords: Technical and Vocational Education and Training (TVET), Skilled Workforce Development, Policy and Accreditation Frameworks

Biographical notes:**Assoc. Prof. Ts. Dr. Haryanti Mohd Affandi**

Associate Professor at the Department of Engineering Education, Universiti Kebangsaan Malaysia (UKM). She specializes in TVET and competency-based education with emphasis on performance-based funding and public-private partnerships. As Leader of the Dinamika TVET Research Group, she advances national TVET transformation and inclusive workforce strategies. Her research focuses on institutional sustainability and future-ready learning ecosystems in Malaysia.

Dr. Mohd Firdaus Mustaffa Kamal

Senior Lecturer at the Faculty of Technical and Vocational Education, Universiti Pendidikan Sultan Idris (UPSI). He holds a Ph.D. in Project Management (Built Environment) from UiTM and a Master's in Construction Management from UTM. His expertise covers TVET governance, institutional management, and applied education systems. He actively supervises and researches in TVET leadership and innovation.

Dr. Lam Meng Chun

Lecturer at the Faculty of Information Science and Technology, UKM, and Head of the Mixed Reality and Pervasive Computing Lab (MyXLab). He specializes in Human-Computer Interaction, Extended Reality, and Mobile Applications. His research integrates digital technologies into TVET for enhanced teaching and learning. Dr. Lam's work bridges technology and vocational education to promote digital transformation in learning.

Dr. Anies Faziehan Zakaria

Senior Lecturer at the Department of Engineering Education, Faculty of Engineering and Built Environment, UKM. She holds a Ph.D. and Master's in Technical and Vocational Education. Her research advances TVET pedagogy, engineering education, and instructional design. Dr. Anies focuses on learner-centered, evidence-based practices that improve employability and education sustainability.

Dr. Mohd Fahmi Ghazali

Senior Lecturer at the Faculty of Economics and Management, UKM, and Chairman of the Centre for Global Business and Digital Economy Studies (GLoBDE). He holds a Ph.D. in Financial Economics from Universiti Sains Malaysia. His research includes financial technology, applied econometrics, and digital economy. Dr. Fahmi has published extensively and mentors postgraduate researchers in Malaysia.

Dr. Sharizal Hashim

Senior Lecturer at the Faculty of Economics and Management, UKM. He holds a Ph.D. in Marketing from UKM and an MBA from the University of Malaya. His research focuses on digital marketing, brand management, and entrepreneurship. Dr. Sharizal is also a certified PSMB (HRDF) trainer and member of the Institute of Marketing Malaysia.

Assoc. Prof. Dr. Ridzwan Che Rus

Associate Professor at the Faculty of Technical and Vocational Education, UPSI, and Deputy Vice-Chancellor (Academic & International). He specializes in Technical and Vocational Education and pedagogical model development. His research spans work-based learning, smart agriculture, and community empowerment. Dr. Ridzwan plays a key role in advancing Malaysia's TVET innovation ecosystem.

The Impact Of TVET Instructors Competency Towards Teaching And Learning Effectiveness**Jaikol Bin Udar**

Ministry of Human Resources

Department of Manpower

Advanced Technology College (ADTEC) Campus Sandakan Sabah, Malaysia.

E-mail: jaikol@jtm.gov.my

Abstract:

Many instructors in TVET institutions possess strong theoretical knowledge but lack up-to-date industrial or practical experience. This gap reduces their ability to demonstrate real-world applications of technical concepts, leading to less effective hands-on learning for students. The aim of this research is to evaluate how instructors' professional skills influence students' performance and employability. Grounded in competency-based education (CBE) theory, the research emphasizes the alignment between instructional skills, curriculum delivery, and industry expectations. A mixed-method approach was employed, combining quantitative surveys among 85 numbers of instructors and qualitative interviews with selected students at college and department. Data were analyzed using descriptive statistics and thematic analysis. The findings indicate that instructors with higher levels of technical and pedagogical competency demonstrate greater classroom effectiveness and student engagement. Moreover, institutions that provide continuous professional development show improved teaching quality outcomes. The study concludes that enhancing instructor competency is vital for producing industry-ready graduates and ensuring the sustainability of vocational education systems.

Keywords: Skill, Competency, Performance and Employability.

Biographical notes:

Jaikol Bin Udar is an instructor at ADTEC JTM Campus Sandakan, under the Department of Manpower, Ministry of Human Resources, Malaysia. He specializes in Technical and Vocational Education and Training (TVET) with a focus on instructional competency and workforce readiness. His research interests include competency-based education, pedagogical innovation, and professional development in TVET. He is dedicated to improving teaching quality and aligning vocational training with industry needs.

Asia's TVET Financing Model: A Comparative Study and Lessons for Malaysia.

Mohd Firdaus Mustaffa Kamal*

Department of Engineering Technology
Faculty of Technical and Vocational
Sultan Idris Education University
Email : firdaus.mk@ftv.upsi.edu.my

Haryanti Mohd Affandi

Department of Engineering Education
Faculty of Engineering and Built Environment
The National University of Malaysia
E-mail: haryantima@ukm.edu.my

Anies Faziehan Zakaria

Jabatan Pendidikan Kejuruteraan,
Fakulti Kejuruteraan dan Alam Bina,
Universiti Kebangsaan Malaysia
Email : aniesfaziehan@ukm.edu.my

Mohd Fahmi Ghazali

Pusat Kajian Perniagaan Global & Ekonomi Digital (GLoBDE)
Fakulti Ekonomi dan Pengurusan
Universiti Kebangsaan Malaysia
E-mail: fahmi@ukm.edu.my

Sharizal Hashim

Pejabat Dekan Fakulti Ekonomi & Pengurusan,
Fakulti Ekonomi dan Pengurusan,
Universiti Kebangsaan Malaysia
Email : hsharizal@ukm.edu.my

Lam Meng Chun

Pejabat Dekan Fakulti Teknologi & Sains Maklumat,
Fakulti Teknologi & Sains Maklumat
Universiti Kebangsaan Malaysia
E-mail: lammc@ukm.edu.my

Ridzwan Che Rus

Department of Agriculture Science
Faculty of Technical and Vocational
Sultan Idris Education University
Email : ridzwan@ftv.upsi.edu.my

* Corresponding author

Abstract:

Financing and funding of Technical and Vocational Education and Training (TVET) in Asia shows a diversity of models that reflect the level of economic development, industrial structure, and labour policies of each country. This comparative study examined TVET financing models in South Korea, Singapore, Thailand, Vietnam, China, Cambodia and Laos, focusing on funding mechanisms, industry involvement, alternative sources of financing and performance-based instruments. The analysis found that South Korea applies robust performance-based funding through the Employment Insurance Fund, with the distribution of funds determined based on employability rates, industrial training achievements, and compliance with curriculum standards. Singapore, on the other hand, stands out through the Skills Development Fund and the Skills Future initiative which diversify funding sources through training levies, learning credits and in-depth industry collaborations. Thailand uses a levy exemption scheme as well as community project generation, while Vietnam implements performance-based financing contracts that increase institutional autonomy in income generation. China, on the other hand, leverages private sector investment and large-scale Public-Private Partnership (PPP) frameworks, thus making the industry a direct contributor to the development of TVET infrastructure. For Cambodia and Laos, government funding and international development assistance (ODA) are still the main sources, but institutions are still encouraged to generate income through training services and trainee products. This comparison shows that the most effective TVET financing models in Asia are those that are industry-driven, performance-based, and diversified in their resources, including levies, trust funds, industry CSR, and PPPs. Compared to these countries, Malaysia is still heavily reliant on government funding, has moderate industry involvement, and has not taken advantage of institutional autonomy mechanisms as well as comprehensive performance-based funding. This article suggests that Malaysia can strengthen its financing model by adopting Asian best practices, including the implementation of apprenticeship levies, the development of a national TVET trust fund, the expansion of PPPs, as well as the comprehensive use of Performance-Based Financing (PBF) instruments such as IPITVET to improve financing sustainability, industry responsiveness and the employability of the country's TVET graduates

Keywords: TVET financing models, Performance-based funding (PBF), Asian comparative education, Sustainable funding mechanisms

Biographical notes:

Dr. Mohd Firdaus Mustaffa Kamal

Senior Lecturer at the Faculty of Technical and Vocational Education, Universiti Pendidikan Sultan Idris (UPSI). He holds a Ph.D. in Project Management (Built Environment) from UiTM and a Master's in Construction Management from UTM. His expertise covers TVET governance, institutional management, and applied education systems. He actively supervises and researches in TVET leadership and innovation.

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Associate Professor at the Department of Engineering Education, Universiti Kebangsaan Malaysia (UKM). She specializes in TVET and competency-based education with emphasis on

performance-based funding and public–private partnerships. As Leader of the Dinamika TVET Research Group, she advances national TVET transformation and inclusive workforce strategies. Her research focuses on institutional sustainability and future-ready learning ecosystems in Malaysia.

Dr. Anies Faziehan Zakaria

Senior Lecturer at the Department of Engineering Education, Faculty of Engineering and Built Environment, UKM. She holds a Ph.D. and Master’s in Technical and Vocational Education. Her research advances TVET pedagogy, engineering education, and instructional design. Dr. Anies focuses on learner-centered, evidence-based practices that improve employability and education sustainability.

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Senior Lecturer at the Faculty of Economics and Management, UKM, and Chairman of the Centre for Global Business and Digital Economy Studies (GLOBDE). He holds a Ph.D. in Financial Economics from Universiti Sains Malaysia. His research includes financial technology, applied econometrics, and digital economy. Dr. Fahmi has published extensively and mentors postgraduate researchers in Malaysia.

Dr. Sharizal Hashim

Senior Lecturer at the Faculty of Economics and Management, UKM. He holds a Ph.D. in Marketing from UKM and an MBA from the University of Malaya. His research focuses on digital marketing, brand management, and entrepreneurship. Dr. Sharizal is also a certified PSMB (HRDF) trainer and member of the Institute of Marketing Malaysia.

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Prof. Dr. Ridzwan Che Rus

Professor at the Faculty of Technical and Vocational Education, UPSI, and Deputy Vice-Chancellor (Academic & International). He specializes in Technical and Vocational Education and pedagogical model development. His research spans work-based learning, smart agriculture, and community empowerment. Dr. Ridzwan plays a key role in advancing Malaysia’s TVET innovation ecosystem.

Parallel Session 4: Vet Teacher Education // Didactics and Learning

Resilience, resistance to change, and the reproduction of teacher education for TVET teachers in England

Kate Lavender*

Huddersfield Centre for Research in Education and Society (HudCRES)
University of Huddersfield
E-mail: k.lavender2@hud.ac.uk

Kevin Orr

Huddersfield Centre for Research in Education and Society (HudCRES)
University of Huddersfield
E-mail: k.orr@hud.ac.uk

* Corresponding author

Abstract:

Most initial technical and vocational education and training (TVET) in England is provided by 157 General Further Education (FE) colleges. Most FE teachers receive initial teacher education (ITE) in those same colleges. This paper reports on a study of teacher educators who provide college-based ITE. Analysis of survey data indicated that teacher educators do not represent the diverse demographics or subject areas of the wider FE teaching workforce. FE teacher educators are more likely to be older, female and white; and few had backgrounds in science, technology, engineering or maths. Drawing on older studies which reached similar conclusions, as well as data from our 2025 survey, we apply Margaret Archer's concepts of morphogenesis and morphostasis to understand the persistently unrepresentative profile of teacher educators. Explanations regarding the enduring characteristics of FE teacher educators provide insight into the lack of change in the English FE sector more widely.

Keywords: Teacher Education, TVET in England, morphostasis

Biographical notes:

Kate Lavenders' research is in the broad areas of: further and adult education with a particular focus on higher level education and skills in these contexts; the sociology of education and the reproduction of inequalities within Post Compulsory education; and vocational education and training policy and practice.

Kevin Orr is a Visiting Professor at the University of Huddersfield, UK. His research focuses on TVET policy and practice, including recent publications on T Level qualifications and Degree Apprenticeships. He is a former editor of the Journal of Vocational Education and Training.

From Islands to Archipelago: Connecting Teachers in Practical Subjects in Secondary Vocational Education (VET) in Flanders

Lyssa Pauwels*

Department of Educational Studies
Ghent University
Multidisciplinary Institute of Teacher Education
Vrije Universiteit Brussel
E-mail: lyssa.pauwels@ugent.be

Ingeborg Placklé

Multidisciplinary Institute of Teacher Education
Vrije Universiteit Brussel
E-mail: ingeborg.plackle@vub.be

Melissa Tuytens

Department of Educational Studies
Ghent University
E-mail: melissa.tuytens@ugent.be

* Corresponding author

Collaboration among VET teachers strengthens learning environments (Placklé, et al., 2022), yet most research focuses on collaboration with the labour market (Gessler, 2017; Tanggaard, 2007). Little is known about how practical subject teachers in secondary VET collaborate with other actors. This study examines to what extent and how these teachers in Flanders work with peers, general subject teachers, and labour market actors. Using a mixed-methods design over two school years, we conducted a survey (n=360) mapping collaboration patterns and three case studies regarding collaborative learning amongst practical subject teachers. Results show intensive collaboration among practical subject teachers and with the labour market, but limited interaction with general subject teachers. Case studies confirm these findings and detail how the collaboration takes place. Strategies to foster collaboration are needed to strengthen learning environments in VET.

Keywords: Secondary vocational education – teachers of practical subjects – teacher collaboration – boundary-crossing – teachers of general subjects

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- Placklé, I., Konings, K. D., Jacquet, W., Libotton, A., van Merriënboer, J. J. G., & Engels, N. (2022). Improving student achievement through professional cultures of teaching in Flanders. *European Journal of Education*, 57(2), 325-341. <https://doi.org/10.1111/ejed.12504>
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<https://doi.org/10.1080/13639080701814414>

Lyssa Pauwels is a PhD-student at the Department of Educational Studies at Ghent University and the Multidisciplinary Institute of Teacher Education at Vrije Universiteit Brussel. Her research focuses on the professionalization of VET teachers in practical subjects in secondary education to create a powerful learning environment for their students.

Ingeborg Placklé is a professor at the Multidisciplinary Institute of Teacher Education at Vrije Universiteit Brussel. She wrote her PhD- project on powerful learning environments in vocational education, with a focus on Project General Subjects. Her other research line is professional development of teacher educators.

Melissa Tuytens is a professor at the Department of Educational Studies at Ghent University. She leads the Bellon research centre for school leadership and educational policy. Her research and teaching focuses on educational policy, leadership, and people management in education.

Teacher roles in developing learning environments at vocational schools

Vibe Aarkrog*

Danish School of Education, Aarhus University
Tuborgvej 164, 2400 Copenhagen NW, Denmark
viaa@edu.au.dk

* Corresponding author

Abstract

A current project (2025-2026) focuses on developmental processes in learning environments at vocational schools, and this paper specially on how teachers establish learning environments and instigated by current deteriorations of the atmosphere restore norms and consequently stability in these environments.

The theoretical framework includes two theoretical concepts: ‘atmosphere’ which concerns the emotional relations among the participants and their experience of safety and ‘norm’ with a focus on the interrelation of norm and stability as well as between violation of norms and instability.

The empirical study includes 29 interviews with teachers within four VET programmes in basic courses at four vocational schools.

The results show that the development of the social learning environment can be characterized as phases in a process including establishment, honeymoon characterised by a pleasant atmosphere, deterioration of the atmosphere as a consequence of norm violation and re-establishing of good atmosphere.

Keywords: Learning environment, atmosphere, norm, teacher competences

Biographical notes:

Vibe Aarkrog is associate professor, Ph.D. at the Danish School of Education, Aarhus University, Denmark. Her research focuses on the interrelation of school-based and workplace-based training in the Danish dual system.

Mapping Skills Readiness for the Energy Transition: An Integrated Approach to Vocational Education and Labour Market Alignment in Ireland

Kelvin Martins

School of Mechanical & Manufacturing Engineering

Dublin City University (DCU)

Ireland

E-mail: kelvin.cardozomartins2@mail.dcu.ie

The transition to a low-carbon economy is reshaping labour market demands, with renewable energy and sustainability-related sectors requiring new technical, digital, and transversal skills. However, questions remain about whether the Vocational Education and Training (VET) sector is adequately equipping learners with the competencies necessary to meet these evolving needs. While policy discourse highlights the importance of green skills, there is limited empirical evidence on the relationship between vocational education fostering and industry demand of skills.

This PhD research addresses that gap by investigating the alignment between skills developed in VET sustainability-related programmes in Ireland and those sought by employers in sectors supporting the energy transition. The project adopts a mixed-methods design, combining curriculum content mapping, labour market analysis, and parallel surveys of students and employers. The triangulation of these data sources will enable the construction of robust alignment indexes, and the findings will be synthesised into a Skills Alignment Matrix and a novel Skills Readiness Level (SRL), developed through a multi-dimensional scoring algorithm.

Conceptually, the study aims to advance the understanding of how skills ecosystems operate in the context of the green economy, and of how they can be quantified. Practically, it will provide policymakers, educators, and industry with an innovative diagnostic tool for identifying alignment, gaps, and opportunities to strengthen workforce readiness for emerging renewable energy technologies.

Contrasting Vocational Traditions: A Comparative Study of VET Teacher Education and Vocational Didactics in Cuba and Greece

Pedro Luis Yturria Montenegro

International Relations Office

University of Pinar del Rio

E-mail: pedrolyturria@gmail.com; yturria@upr.edu.cu

Manos Pavlakis*

Department of Education

Frederick University

E-mail: m.pavlakis@frederick.ac.cy

* Corresponding author

Abstract: In times of rapid technological, economic, and social change, the quality of Vocational Education and Training (VET) relies on the skills of teachers and the effectiveness of vocational teaching methods. However, the ways VET teacher education and vocational instruction are approached differ significantly across countries and ideological backgrounds. This paper compares how Cuba and Greece design and implement VET teacher education and vocational teaching in the context of current global challenges, including artificial intelligence, inclusion, sustainability, and the transmission of values. The study draws on comparative education theory and uses concepts from vocational didactics, teacher professionalization, and work-based learning. It situates the analysis within broader discussions on the relationship among education, work, and social development. Methodologically, it applies a comparative documentary analysis of policy texts, institutional frameworks, curricula, and academic research in both countries. Cuba's Technical and Professional Education (ETP) follows a socialist model that integrates education with productive work and social development through hands-on experiences and teaching systems. Greece functions within a European Union-influenced, skill-based system. It has fragmented governance, limited teaching preparation for VET teachers, and mainly focuses on theoretical teaching methods. The comparison shows how different political and policy environments shape VET teacher roles, teaching traditions, and professional growth paths, and highlights the various ways countries strive to balance economic needs with human values in VET, contributing to global discussions on quality, fairness, and sustainable development.

Keywords: VET, Teacher Education, Comparative Study

Biographical notes: (Four lines, Font size 12)

Pedro Luis Yturria Montenegro is a lecturer of VET and Master's in Professional Pedagogy (VET) at the University of Pinar del Río, Cuba. With over 42 years of experience as a university teacher, his research focuses on the didactics of technical subjects, VET, internationalization, and ICT.

Manos Pavlakis is an Asst. Professor of Adult Education at Frederick University in Cyprus and coordinator of the MA in Educational Administration/Leadership. He has over 20 years of experience as an adult trainer and business consultant. His research focuses on workplace learning, learning organizations, and teacher education.

Which competences are necessary for an inclusive teaching of diverse learners in vocational schools? Results from observations and interviews with vocational teachers in Germany and Switzerland

Nicole Kimmelman*

Department of Business Education and Human Resource Management
Friedrich-Alexander-University Erlangen-Nuremberg (FAU)
E-mail: Nicole.Kimmelman@fau.de

Silvia Pool Maag

Department of Education, Research and Development
Zurich University of Teacher Education
E-mail: silvia.poolmaag@phzh.ch

* Corresponding author

Abstract:

Context: The study examines which competences teachers at vocational schools need, to deal with diversity in VET inclusively.

Aim: Aim of the study was to identify relevant competences from the practical teachers' perspective.

Theoretical grounds: The study builds on a former project, where a competence framework was theoretically derived through comprehensive literature analysis of existing competence models of teachers' competences connected to diversity/inclusion.

Methods: For validation of the framework we used classroom observations and interviews with teachers in vocational schools in Germany and Switzerland. Categories of the framework were used to design the observation and interview guidelines.

Findings: Result is a three-dimensional competence model, whose competences have been empirically validated and refined in practice. Additionally, differences of competences and correlating circumstances between the two countries can be seen in the data.

Conclusions: The data can be used for further teaching research and could also be incorporated into teacher training curricula.

Keywords: Diversity, Inclusion, Competences, Teacher Education and Training, empirical validation

Biographical notes:

Dr. **Nicole Kimmelman** holds a professorship for Business Education at the Department for Business Education and Human Resource Management at FAU Erlangen-Nuremberg. Her main areas of research are: migration, diversity and inclusion in VET, (second) language learning/learners in VET, professional competence development in Work 4.0.

Dr. **Silvia Pool Maag** holds a professorship for Special Education with focus on inclusion and diversity at the Department for Education, Research and Development at the PHZH Zürich. Her main areas of research are: inclusion and diversity in VET, transition from school to work of disadvantaged groups, education and research on inclusive classroom.

Competence Profiles of Vocational Education Teachers and Trainers: A Cross-National Analysis of Germany and Ireland Using PIAAC Data**Sean Manley***

School of STEM Education, Innovation and Global Studies
Dublin City University
E-mail: sean.manley@dcu.ie

Susanne Peters

Institute Technology and Education
University of Bremen
E-mail: speters@uni-bremen.de

* Corresponding author

Abstract:

Across Europe, VET teachers face growing pressures as digital and ecological transitions reshape labour markets, increasing expectations for professional competency development (McGrath & Yamada, 2023; Misselke et al., 2024).

While much research focuses on skills demand, attention is shifting to the supply side of VET systems (Cedefop, 2023). This study compares how Germany's dual system and Ireland's emerging decentralised system are responding to these challenges.

Using PIAAC Cycles 1 and 2 data, it conducts a systematic comparison of VET teachers' skills proficiency, skill use, task demands and learning participation, with key dependent variables for analysis including respondents' job satisfaction and perceived competence–role alignment.

Framed by Cedefop's (2023) Three Perspectives Model the analysis is reflective of context of each country, with a 'Socio-Economic and Labour Market', 'Education System', and 'Pedagogical and Epistemological' perspectives incorporated.

Preliminary insights suggest increasing demands for digital and transversal competencies, shaped by distinct national structures that influence teachers' evolving roles and professional development opportunities. The study aims to contribute to European policy discussions on strengthening VET teacher quality (Cedefop, 2025) by identifying contextual factors affecting professional growth and capacity to adapt to change.

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Keywords: VET teachers, VET training personnel, competencies, PIAAC, Ireland, Germany, professional development

Biographical notes:

Sean Manley is a doctoral researcher and lecturer at Dublin City University. His research focuses on the changing role and professional learning of teachers in Further and Vocational Education and Training, with a particular interest in cross-sector collaboration, adult skills, and comparative VET systems.

Dr Susanne Peters, postdoctoral researcher at the Institute Technology and Education (ITB) at the University of Bremen in Germany, researches vocational education and training with a focus on international cooperation, vocational training systems, and the transfer of educational models. Her interests cover the development of business models in VET, challenges in implementing dual apprenticeship systems internationally, and vocational training staff.

Different Pathways, Shared Challenges: Reflections on Entering Vocational Teaching in Germany

Dr.-Ing. Mats Vernholz*

University of Paderborn
Department of Didactics of Technology
Warburger Str. 100, 33098, Paderborn, Germany
E-mail: mats.vernholz@upb.de

Dr. Gabriela Jonas-Ahrend*

University of Paderborn
Department of Didactics of Technology
Warburger Str. 100, 33098, Paderborn, Germany
E-mail: gabriela.jonas-ahrend@upb.de

Prof. Dr.-Ing. Katrin Temmen

University of Paderborn
Department of Didactics of Technology
Warburger Str. 100, 33098, Paderborn, Germany
E-mail: katrin.temmen@upb.de

* Corresponding author

Abstract:

Germany is experiencing a shortage of teachers, a situation that is particularly evident in the domain of technical vocational education. In response to this, various pathways into vocational teacher education have been established. These pathways are diverse in their nature but all lead to the same teacher degree as traditional teacher education. In two interview studies (n=22 (pre-service) vocational teachers), initial motives of entering teacher education (based on FIT-Choice) as well as retrospective views on the career choice after entering the profession (based on PLP-model) are analyzed. The present study compares the reflective views of pre-service teachers and career-changing in-service teachers (CCIT). Although both groups generally perceive their career choice positively, the results raise questions about why CCITs did not enter the field of teacher education in the first place. Additionally, the analysis allows for further discussion about existing teacher education programs in times of teacher shortage.

Keywords: vocational teacher education, teacher shortage, career-changing teachers, teacher reflections

Biographical notes:

Dr.-Ing. Mats Vernholz finished his Master of Education in the area of didactics of technology at Paderborn University in 2020. His main research interests focus on pre-service teachers in the field

of didactics of technology. In his Ph.D., he focused on pre-service teachers' academic self-concepts and their formation along their course of study.

Dr. Gabriela Jonas-Ahrend began her career as a mathematics and physics teacher before earning her Ph.D. in physics education in 2004. Since 2019, she has been a research and teaching associate at Paderborn University. Her interests include research and development projects in science and technology teacher education, both nationally and internationally.

Prof. Dr.-Ing Katrin Temmen received her Ph.D. in Electrical Engineering in 1998 from the University of Dortmund. Since 2010, she has been a professor and head of the chair for Didactics of Technology at Paderborn University. Her research interests include education in vocational schools and the didactics of further education in the field of engineering.

**Transformative Pedagogy, Capacitating Educational Leadership and Bienvivance:
*Inner Resources Development for Outer Changes and Regenerative Education,
Towards Inclusive Excellence in TVET***

Bénédicte Gendron *

Department of Education & Training
University of Montpellier Paul-Valéry
E-mail: benedicte.gendron@univ-montp3.fr

* Corresponding author

Abstract:

This communication examines how capacitating pedagogy and educational leadership, grounded in the paradigm of bienvivance, can inspire transformative and regenerative practices in Technical and Vocational Education and Training (TVET). Bienvivance, defined as a paradigm of vitality and meaningful lives through emotional, relational, and ethical flourishing, frames the development of teachers' inner resources, precisely their emotional capital, reflexivity, and relational competences, as catalysts for outer changes. In contexts where VET educators must reconcile inclusivity, innovation, and sustainability, this applied research conducted in vocational schools investigates how such inner capabilities and resource development enhance teacher agency, learner engagement, and collective emotional security. Drawing on the principles of regenerative education, the findings show that fostering bienvivance enables schools to move beyond functional performance toward inclusive excellence and human sustainability. The presentation concludes by identifying key levers, trust, empathy, collaborative learning and shared purpose, for nurturing agentivity, resilient and ethically grounded learning communities in vocational contexts, converting potential into competences and potentialities into creativity to become spaces of ethical excellence, human sustainability, and shared meaning.

Keywords: Capacitating Pedagogy, Bienvivance, Inner Resources Development for Outer Changes, Regenerative Education, Inclusive Excellence, Transformative Learning

Biographical notes:

Prof. Dr. Dr Bénédicte Gendron is a full professor at the Department of Education and Training at the University of Montpellier Paul-Valéry in France. Her research interests focus on capacitating pedagogy and leadership, bienvivance, emotional capital and inclusive excellence in TVET.

Industry Associates: Establishing a Pathway for Technical Experts to Address Teacher Supply Challenges

Rory McDonald*

Gatsby Charitable Foundation
rory.mcdonald@gatsby.org.uk

Jenifer Burden

Gatsby Charitable Foundation
jenifer.burden@gatsby.org.uk

* Corresponding author

Abstract:

Like many countries, England faces an acute shortage of technical/vocational subject teachers. In response, education institutions have engaged 'Industry Associates': industry professionals from outside the education sector who can bring valuable expertise to student learning but who can lack confidence to navigate teaching contexts effectively. To address this the Gatsby Charitable Foundation commissioned a training programme for Industry Associates to develop pedagogic expertise and support transition into technical/vocational teaching. The programme, which has been recognised in a UK Government policy paper, was piloted with five institutions, each recruiting 10–15 Industry Associates from diverse professional backgrounds. A mixed-methods, research-informed evaluation examined participants' evolving professional identities, confidence, and teaching readiness. This paper reports emerging findings on programme impact, highlighting factors supporting effective transition from industry to teaching. Implications for policy and practice are shared to inform international reflection on technical/vocational teacher shortage strategies.

Keywords:

Initial Teacher Education, Recruitment, Teacher Supply, Industry Associates,

Biographical notes:

Dr Rory McDonald is a Research Officer at the Gatsby Charitable Foundation in the United Kingdom. His work and research interests include the supply of teachers for the further education workforce and wider technical education reform.

Jenifer Burden is a Director of Programmes at the Gatsby Charitable Foundation in the United Kingdom. Jenifer leads on a number of Gatsby's programmes to support delivery of technical education, in particular for upper-secondary. Jenifer previously taught for 13 years and worked for the University of York and Association for Science Education.

How can the paucities experienced by vocational schools contribute to their ability/inability to train students for industry and entrepreneurship? Perspectives from TVET educators

Abede Mack*

Department of Management
St Francis Xavier University
E-mail: amack@stfx.ca

Priscilla Bahaw

Department of Agricultural Economics and Extension
University of The West Indies, St Augustine Campus
E-mail: priscilla.bahaw@uwi.edu

Ayanna Stephens

College of Graduate Studies and Research
University of the Commonwealth Caribbean
E-mail: afrederick@faculty.ucc.edu.jm

Norffadhillah Rofa

Academy of Universiti Tun Abdul Razak (UNIRAZAK).
E-mail: fadhillah.rofa@unirazak.edu.my

Dimelon Westfield

Department of Management Studies
dimelon.westfield@open.uwi.edu

* Corresponding author

Abstract:

Context: Technical Vocational Education and Training (TVET) Institutions (I) play a paramount role in preparing students for industry and entrepreneurship.

Aim: We investigated the lived experiences of TVET educators and administrators to explain the factors that hinder TVETIs' ability to train students for industry and entrepreneurship.

Theoretical grounds: We examined sociocultural barriers, institutional, policy, curriculum, and pedagogical issues that plague these schools, alongside our theoretical model, Human Capital Development.

Methods: We undertook a mixed-method study using document analysis and 24 interviews with educators at four TVETIs in Trinidad and Tobago (T&T). We employed Braun and Clarke's (2006) six-step inductive thematic analysis approach.

Findings: Our findings revealed four main themes: Stigma, curriculum and teaching paucity, the absence of entrepreneurship education, and institutional paucity.

Conclusions: The reduction of stigma, along with decisive leadership practices at both the institutional and government levels, is key to overcoming the paucities TVETIs face in T&T.

Keywords: Entrepreneurship, industry, institutions, Trinidad and Tobago, TVET

Biographical notes:

Dr Abede Mack is an assistant professor at the St Francis Xavier University in Canada. His research focuses on envisioning TVET as a viable career path through entrepreneurship. He particularly examines the influence of entrepreneurship among higher education and TVET students, exploring the varying interests and outcomes of entrepreneurship.

Dr. Priscilla Bahaw is lecturer at the University of the West Indies and chairs the Caribbean region research cluster on Entrepreneurship. Her research focuses on empowering minority entrepreneurs through entrepreneurship education alongside vocational institutions and their shift towards entrepreneurship.

Dr. Ayanna Stephens is an assistant professor in the College of Graduate Studies and Research at the University of the Commonwealth Caribbean, where she has taught for over four years. Her research focuses on entrepreneurship, self-employment, women entrepreneurs, and the intersection of work and well-being.

Norffadhillah Rofa serves as Lecturer/ TVET Assessor at the Academy of Universiti Tun Abdul Razak (UNIRAZAK). Currently conducting doctoral research on TVET Graduate Entrepreneurs among alumni of the Malaysian Technical University Network (MTUN). Her research interests encompass HR, TVET, and entrepreneurship.

Please Note: We are emerging researchers and would like to receive more detailed feedback on our work.

Keynote 2: PhD Tobias Karlsson Saksen, Linköping University

What do you want to be when you grow up?

This is a question many children hear throughout their upbringing, a question that often implies—whether vaguely assumed or clearly defined—a particular educational trajectory with a gradual transition into working life. As adults, we are rarely asked this question. Adulthood instead carries expectations about who one is and what one is supposed to do. But what does it mean, as an adult, to return to the metaphorical school desk in order to breathe new life into the question: “perhaps this is what I am meant to become when I grow up”?

Educational pathways and transitions into study or working life are often described and explained in terms of causality. Yet, while they may at times appear linear, there is also a wealth of examples showing how they might more aptly be understood as a landscape of winding paths, where previously unforeseen opportunities emerge, while well-defined routes bend, branch off, or change direction entirely.

In his keynote, Tobias addresses these questions and demonstrates how the challenges associated with the development of vocational students’ professional identities can be met through the pedagogical and institutional practices of vocational education.

Tobias Lasse Karlsson Saksen holds a PhD in Education with a specialization in adult learning. He is a former upper secondary school teacher and currently serves as an educational director within higher vocational education.

Parallel Session 5: Migration, Inclusion, Gender, AI and Digitalization

“You are there, but you are invisible, one might say”: Adult foreign-born care providers’ encounters with the different norms and values in elderly care settings

Åsa Kindevåg*

Department of Culture and Society

Dalarna University, Sweden

E-mail: aki@du.se

* Corresponding author

Abstract:

Vocational Health and Social Care (VHC) students in Swedish elderly care navigate complex professional norms and values, especially foreign-born students. This paper examines how adult foreign-born students in health and social care programmes encounter and internalise these norms during work placements. Drawing on situated learning, the study employs focus group interviews with adult foreign-born VHC students. Findings show that students primarily become aware of norms by observing supervisors, making abstract concepts - such as quality care and promoting independence - tangible. Personal values of staff and care recipients also surface, particularly when students face xenophobia. One conclusion is that the professional community should remain open to newcomers, allowing them to gradually learn its norms and practices, and transfer acquired knowledge to future participants

Keywords: adult education, immigrants, health- and social care education, elderly care

Biographical notes:

Åsa Kindevåg is a PhD candidate in Educational Work specialising in Vocational Didactics at the Department of Culture and Society at Dalarna University, Sweden. Her research focuses on foreign-born adult students and how they receive and internalise the norms and values of elderly care.

Lost in transition? – International pathways to vocational education and training for people with a migrant background. New insights for Germany.

Sebastian Ixmeier, M.A.*

University of Duisburg-Essen
Department of Vocational Pedagogy and
Vocational Training Research
Universitätsstrasse 2, 45141, Essen,
Germany
E-Mail: sebastian.ixmeier@uni-due.de

Prof. Dr. Dieter Münk

University of Duisburg-Essen
Department of Vocational Pedagogy and
Vocational Training Research
Universitätsstrasse 2, 45141, Essen,
Germany
E-Mail: dieter.muenk@uni-due.de

* Corresponding author

Abstract: Globalisation dynamics and refugee movements are key drivers of the increasing internationalisation of European society. Integration into the labour market is crucial for securing skilled workers and ensuring equal participation. VET plays a key role here. In international comparison, the successful participation of young people with a migrant background in VET in Germany is below average. This is particularly evident in the low transition rates from general education to VET and on to the labour market. With the help of sociological figuration theories (Elias), this article examines the reasons for this imbalance. Based on experiences from other European countries, ways to improve the situation will be identified. A systematic literature review will be used as the methodological approach. The results reveal institutional (permeability & recognition), social (discrimination & milieu) and personal (language & orientation) barriers. Opportunities can be improved through target group-specific assistance, holistic support and early enterprise participation.

Keywords: migration, inclusion, vocational education and training; international comparison, transition

Biographical notes:

Sebastian Ixmeier, MA is a Doctoral Student at the Department of Vocational Pedagogy and Vocational Training Research. His main research interests are the Vocational Rehabilitation and Inclusion as well as Comparative Studies between VET and Participation.

Prof. Dr. Dieter Muenk is chair holder of the Department of Vocational Pedagogy and Vocational Training Research. His main research interests are Comparative International & European Vocational Training Research, the Structure, Law and Organisation of VET and the Professionalization of the Educational Staff of VET

Recognition in the context of skilled labour migration: The perspective of migrants in Germany

Frieda Klaus*

Institute Technology and Education (ITB)
University of Bremen
E-mail: fklaus@uni-bremen.de

Ida Kristina Kühn

Institute Technology and Education (ITB)
University of Bremen
E-mail: Kristina.kuehn@uni-bremen.de

* Corresponding author

Abstract

Context and theoretical grounds: Recognition of qualifications contributes to sustainable labour market integration and individual independency. In Germany, recent recognition practice bases on formal aspects. Following Honneth (2025), the recognition construct goes beyond by additionally covering emotional and solidarity-based dimensions to specify societal-individual relationships. Transferred to labour migration context, multi-dimensional recognition is crucial to social justice, participation and capability (Czollek et al., 2019; Fraser, 2003; Klaus & Kühn, 2025; Riegel, 2009). Currently, social integration is left to local actors, whilst a holistic recognition approach (Stöhr et al., 2019) is lacking.

Aim: This research aims at investigating the transformation of recognition as object to social innovations focusing on how to intertwine formal and social integration.

Methods: The mixed-methods approach combines data from quantitative and qualitative migrants inquiries.

Findings: Results classify individual recognition experiences and show that holistic integration approaches exist at single-institutional level.

Conclusions: Local actors' commitment and migrants' resources are key to social innovation and could reach greater impact by structural support.

Keywords: Migration, Recognition, Vocational Education and Training, Sustainable Integration, Justice, Social Innovation

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Biographical notes:

Frieda Klaus is a research associate and a PhD student (Emerging Researcher) at the Institute Technology and Education (ITB) at the University of Bremen in Germany. Her research interests focus on the internationalisation and innovation of vocational education and training (VET) and on the application of artificial intelligence in VET.

Dr Ida Kristina Kühn is a postdoctoral researcher at the Institute Technology and Education (ITB) and lecturer for educational sciences at the University of Bremen. Her research focus is on internationalisation of VET service providers, teaching and learning in vocational education and integration of disadvantaged groups.

Gender- and migration-sensitive concepts for vocational school education programs tailored by applying biographical research

Marcel Martsch*

Department of Education

University Siegen

E-mail: marcel.martsch@uni-siegen.de

Erika Gericke

Department of Education

University Siegen

E-mail: erika.gericke@uni-siegen.de

* Corresponding author

The integration of people – especially women – with a migrant history into the German education and labour market remains only partially successful (Farrokhzad, 2020). The present contribution responds to this by developing gender- and migration-sensitive concepts and approaches, which should be incorporated into vocational school education programs tailored to the target audience (in terms of content, methodology, and teaching methods).

To this end, the first step is identifying the specific needs, challenges, and obstacles, as well as the resources and strengths of young women with a migration background in the transition system of the German VET system. Following the approach of biographical research (Rosenthal, 2018) 15 episodic interviews (Flick, 2022) with students of the target group at a German vocational college have been conducted. The presentation will methodically examine and present the teaching and learning-related empirical results (challenges and needs) resulting from every day life, school life, educational goals and future career.

Keywords: women with a migrant history, biographical research, gender- and migration-sensitive vocational school education, transition system of the German VET system

Biographical notes:

Dr Marcel Martsch is a research associate at the Department of Education at the University Siegen, Germany. He studied psychology and focuses on the design, implementation, and evaluation of vocational training. His research work covers e.g. the fields of competency-based curricula, action-oriented trainings, and development of key competences.

Professor Dr Erika E Gericke is a professor at the Department of Education at the University Siegen, Germany. Her research interests focus on international comparative VET research, biographical research, socio-pedagogically oriented VET and digitalization in VET.

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Occupational Visibility Across Platforms: Investigating Biases in VET and Gendered Job Title Recommendations

Katerina Kostadinovska*

Federal Institute for Vocational Education and Training (BIBB)

E-mail: katerina.kostadinovska@bibb.de

Jens Dörpinghaus

Department of Computer Science

University of Koblenz; Linnaeus University, Sweden

Federal Institute for Vocational Education and Training (BIBB)

E-mail: jens.Doerpinghaus@bibb.de

* Corresponding author

Abstract: Our initial analysis of YouTube recommendations reveals systematic differences in the representation of German occupations across male, female, and neutral job title variants. We observe larger overlaps in female-dominated occupations and a higher proportion of negative sentiment for neutral forms in male-dominated fields. Building on these findings, we aim to further investigate whether vocational education and training (VET) occupations appear consistently across multiple search contexts—for instance, whether VET terms surface not only under their own job title variants but also in recommendations triggered by other occupational titles. Examining this pattern would provide insight into the digital visibility and contextual positioning of VET within algorithmic systems.

To verify our observations and explore these new questions, we will complement the YouTube analysis with systematically collected Twitter/X data. This will allow us to assess how the observed patterns compare to the broader population of online discourse and evaluate the robustness of the emerging trends.

Keywords: Algorithmic bias; VET representation; Gendered job titles; Cross-platform analysis; Social media data; Digital visibility

Biographical notes:

Katerina Kostadinovska is a student at TH Cologne, studying Data and Information Science. She is currently working at the Federal Institute for Vocational Education and Training (BIBB). Her research interests are focusing on skill analysis for vocational education and training (VET).

Jens Dörpinghaus is a professor at the University of Koblenz (Germany) and a lecturer at Linnaeus University (Sweden). He also works at the Federal Institute for Vocational Education and Training (BIBB). His research focuses on digital archives of occupations and social media analysis for analyzing occupations and vocational education and training.

Shifting Trends? Women Enrollment in Postsecondary STEM Vocational Education Programs in the United States

Oscar A. Aliaga*

Department of Leadership, Policy, and Lifelong Learning
College of Education
University of South Florida
4202 E. Fowler Avenue, EDU 105,
Tampa, FL 33620, USA
E-mail: oaliagaabanto@usf.edu

* Corresponding author

Tammy Briant Spratling

College of Education
University of South Florida

Amber D. Dumford

College of Education
University of South Florida

Cindy Townsend

College of Education
University of South Florida

Abstract: Over the past three decades, many policies and practices at the federal and state levels in the United States have been adopted to foster the participation women in Science, Technology, Engineering and Mathematics (STEM) programs and jobs, in which they have been traditionally underrepresented. We explored women's participation in associate degrees in three STEM fields at two points in time with the purpose to understand if there has been any change in participation between those times: the early 2000s, which experienced significant changes in postsecondary vocational education, and the mid-2010s, after several efforts to increase women's participation in vocational education STEM fields. Results indicate little progress in participation in Computer and Information Sciences, and Engineering, but higher participation in Health-related fields. Analysis reveals that students who had taken any number of credits in Health-related fields in high school vocational education were more likely to enroll in a Health-related major. Our results suggest the need for further practices and efforts to increase women's participation in STEM careers. Our analysis was conducted using data from the ELS of 2002 and HSLS of 2009.

Keywords: Postsecondary vocational education, United States, STEM careers

Biographical notes:

Dr. Oscar A. Aliaga is an Associate Professor at the Department of Leadership, Policy, and Lifelong Learning, at the College of Education, University of South Florida. He has conducted research primarily on participation in career and technical education, and its impact on students' achievement (including academic performance and dropouts) and postsecondary outcomes (enrolment in 2-year and 4-year degree programs, and work after school). He has also conducted research on school counselors and CTE, and work-based learning.

Dr. Tammy Briant Spratling is a faculty member at the College of Education, University of South Florida, specializing in higher education administration.

Dr. Amber Dumford is a professor at the University of South Florida conducting research in higher education administration.

The pioneers are dropping out: What motivates women and men to leave their atypical vocational education and training (VET) occupations?

Pia Wagner*

Section 1.2 “Qualifications, Occupational Integration and Employment”

Federal Institute for Vocational Education and Training (BIBB)

E-mail: pia.wagner@bibb.de

Lisa Fournier

Section 1.2 “Qualifications, Occupational Integration and Employment”

Federal Institute for Vocational Education and Training (BIBB)

E-mail: lisa.fournier@bibb.de

* Corresponding author

Abstract

Gender segregation in VET persists within the labour market, perpetuating inequalities, as it leads to unequal working conditions, employment prospects and income for women and men.

Gender-atypical educational choices could counteract this, but often result in higher occupational attrition. While existing studies focus on academic careers, our study analyses atypical *VET* careers. Therefore, we conducted interviews with men in nursing and women in STEM occupations, – examining institutional, social, and personal factors as reasons for occupational drop-out. Also, we will include interviews from female STEM apprentices and employees, capturing career expectations and aspects facilitating women’s STEM careers.

Initial Findings: Unfavourable working conditions, limited career opportunities, and low prestige are the reasons men leave the care sector. Women leave STEM occupations, due to discrimination and structural barriers regarding work arrangements. These findings reveal gender-specific patterns in career development for individuals with gender-atypical VET, highlighting ongoing structural challenges that sustain gender inequality.

Keywords: Educational and occupational gender segregation, occupational attrition, labour market transition and retention

Biographical notes:

Pia Wagner and Lisa Fournier are both research associates of the BIBB (Germany) in the section 1.2 “Qualifications, Occupational Integration and Employment”. Pia's research interests are participatory approaches in organisational change and gender differences in the labour market. Lisa’s fields of interest are career guidance approaches, with a special focus on gender differences.

From Segregation to Inclusion: Collaborative Strategies for Gender Equality in Vocational Training

Elena Quintana-Murci*

Department of Applied Pedagogy and Psychological Education, Research and Innovation on Vocational Education and Training Lab-LABVET

University of the Balearic Islands

E-mail: elena.quintana@uib.es

Maria Tugores-Ques

Department of Applied Economics, Research and Innovation on Vocational Education and Training Lab-LABVET

University of the Balearic Islands

E-mail: mtugores@uib.es

Carlos Vecina Merchante

Department of Applied Pedagogy and Psychological Education, Research and Innovation on Vocational Education and Training Lab-LABVET

University of the Balearic Islands

E-mail: carlos.vecina@uib.es

Francesca Salvá-Mut

Department of Applied Pedagogy and Psychological Education, Research and Innovation on Vocational Education and Training Lab-LABVET

University of the Balearic Islands

E-mail: f.salva@uib.es

* Corresponding author

Abstract:

Context: Vocational Education and Training (VET) remains one of the most gender-segregated educational pathways, shaping women's academic and career trajectories and perpetuating structural inequalities in employment. **Purpose:** The project² aims to analyse the causes and manifestations of gender segregation in VET and to design coeducational intervention proposals that promote academic and career guidance free from gender stereotypes. **Theoretical grounds:** Grounded in a feminist, intersectional and coeducational framework, the research builds on European and Spanish legislation on gender equality and education, as well as on studies evidencing the persistence of stereotypes in study and career choices. **Methods:** A qualitative and collaborative methodology is applied, structured in three phases: documentary and statistical analysis, identification of national and international good practices, and the development of discussion groups with students, teachers, guidance professionals and labour market agents. **Findings and conclusions:** The project will culminate in a Catalogue of Tools and Good Practices aimed at eliminating gender segregation in VET and promoting coeducation as a transformative strategy, thereby contributing to greater educational and labour equality between women and men.

Keywords: Vocational Education and Training, Gender segregation, Coeducation, Collaborative Approaches

² The Project Gender Segregation and Coeducation in Vocational Education and Training: Proposals for Intervention from a Collaborative and Holistic Approach (09-1-ID24) is funded by the Ministry of Equality of the Government of Spain.

Biographical notes: (Four lines, Font size 12)

Dr Elena Quintana-Murci is a senior lecturer at University of the Balearic Islands (UIB). Her fields of interest and research are early school leaving, vocational education and training, youth transitions to adulthood and gender. She is also the Deputy Director of the Laboratory for Research and Innovation in Vocational Education and Training-LABVET at the UIB.

Dr Maria Tugores Ques is a senior lecturer in the Department of Applied Economics at the University of the Balearic Islands (UIB). She specialises in the labour market, the economics of education and the economics of tourism. She has participated in several competitive projects focusing on school dropout rates, career paths, gender and the economic analysis of tourism.

Dr Carlos Vecina Merchante is a a tenured contract senior lecturer in the Department of Applied Pedagogy and Educational Psychology at the University of the Balearic Islands, Spain. His research interests include community development and intervention, social representations, immigration, social and educational inequality and vocational education and training.

Dr Francesca Salvà-Mut is full professor at the University of the Balearic Islands (UIB). She is the Director of the Laboratory for Research and Innovation in Vocational Training-LABVET at UIB. Her main areas for research are educational and work transitions of early school leavers, vocational education and training, and gender.

History of Vocational Education and Training for Women: International commentaries
An international book project in cooperation with Springer

Åsa Broberg*, Sarojni Choy, Viveca Lindberg, Gun-Britt Wärvik (Eds)

This major reference work brings together international historical accounts of women's participation in vocational education and training (VET). It examines how women's education in areas like domestic work, textiles, and healthcare developed alongside societal changes. Education has long been recognized as key to social participation and equality, yet history shows that access alone does not guarantee emancipation. Depending on how it is structured and valued, education can reinforce social divisions. Despite its importance, the history of VET for women remains underexplored. This collection highlights how global processes like industrialisation and consumerism shaped VET for women differently across nations. By tracing how VET for women functioned both to meet societal needs and reinforce gender norms, this publication aims to uncover the complex relationship between education and social change. It analyses how historical trajectories of VET varied across national and cultural contexts, offering insights that can inform future strategies for gender equality in education and work. The book will be peer reviewed and feature chapters from different nations worldwide; and be organized into regional sections: **Africa, the Americas, Asia-Pacific, and Europe**. The book comprises three main sections. Section I will contain an introduction to the book including the major turning points, and global policies on women's education and equity principles. Section II contains contributions from countries in four regions: Africa, America, Asia-Pacific and Europe. Each regional segment opens with an introduction and summary of the national chapters. Each national chapter describes and analyses the emergence of VET for women in relation to societal changes. They are structured around major turning points for women's vocational education and occupations as these emerged and changed throughout the history of each nation. In the final section the different histories of VET for women will be compared and analysed in relation to the historical turning points to identify patterns that will help us better understand the role of VET for women in societal changes and we will discuss the implications for equality.

Presenter: Åsa Broberg, Åsa Broberg, Associate professor in Education, Department of Education, Stockholm University

Email: asa.broberg@edu.su.se

The Perception of AI in Different Labor Market Data: Understanding Professional Requirements and Potentials for VET Curriculum Development

Michael Tiemann*

Federal Institute for Vocational Education and Training (BIBB)
Friedrich-Ebert-Allee 114-116, 53113 Bonn, Germany
E-mail: tiemann@bibb.de

Jens Dörpinghaus

Federal Institute for Vocational Education and Training (BIBB)
Friedrich-Ebert-Allee 114-116, 53113 Bonn, Germany, and
University of Koblenz,
Universitätsstraße 1, 56070 Koblenz, Germany
E-mail: jens.doerpinghaus@bibb.de

* Corresponding author

Abstract: This paper uses multi-source labour market data analysis to examine how professionals across different sectors perceive artificial intelligence requirements in their work environments. Using 3.5 million job advertisements (2015–2022), social media discourse from eight million posts and 66,549 continuing vocational education courses, contrasted to recent findings of the BIBB/BAuA Employment Survey 2024 on the use of AI tools at the workplace. The study reveals differentiated adaptation patterns rather than uniform acceptance or rejection of AI. IT professionals demonstrate an increasing demand for AI tools, rising from 1% to 12.4%, while traditional trades show a more selective approach to integration. Sentiment analysis indicates balanced expectations, with pragmatic engagement predominating and no extreme fear or hype. Named entity recognition using a computer science ontology with 6,879 topics identifies sector-specific information demands. IT professionals seek technical depth, while tradespeople require practical applications and educators pursue integration strategies. The findings demonstrate a speeding-up of professional adaptation over time and highlight gaps between the capabilities of AI systems and the understanding of professional conditions, including cognitive load, fatigue and workplace satisfaction. This has implications for the design of responsive VET curricula.

Keywords: artificial intelligence adoption, labor market analysis, vocational education, professional adaptation, sentiment analysis

Biographical notes: (Four lines, Font size 12)

Dr Michael Tiemann is a senior researcher and co-head of the Department of Qualification, Occupational Integration and Employment at the Federal Institute for Vocational Education and Training (BIBB), Germany. His research interests focus on the development of occupational contents and requirements, knowledge in occupations and at the workplace, and the application of computational social science methods.

PD Dr Jens Dörpinghaus is postdoctoral researcher at Department 1, VET Research and Monitoring and Employment at the Federal Institute for Vocational Education and Training (BIBB), Germany. He is also lecturer (Privatdozent) at the University of Koblenz and Linnaeus University (LNU) in Växjö, Sweden. His research focuses on computational social science, data science methods, and big data analytics.

Analyzing Digital Footprints: Web Analytics and Social Media Data for Understanding VET Occupation Demand in Germany

Felix Derksen*

Federal Institute for Vocational Education and Training (BIBB)
Friedrich-Ebert-Allee 114-116, 53113 Bonn, Germany, and
Technische Hochschule Köln,
Claudiusstraße 1, 50678 Cologne, Germany
E-mail: felix.derksen@bibb.de

Jens Dörpinghaus*

Federal Institute for Vocational Education and Training (BIBB)
Friedrich-Ebert-Allee 114-116, 53113 Bonn, Germany, and
University of Koblenz,
Universitätsstraße 1, 56070 Koblenz, Germany
E-mail: jens.doerpinghaus@bibb.de

Michael Tiemann*

Federal Institute for Vocational Education and Training (BIBB)
Friedrich-Ebert-Allee 114-116, 53113 Bonn, Germany, and
University of Koblenz,
Universitätsstraße 1, 56070 Koblenz, Germany
E-mail: tiemann@bibb.de

* Corresponding author

Abstract: The dynamic German labor market requires continuous adaptation of vocational education and training (VET) systems to emerging skill demands. This study introduces a novel approach to assess occupation-specific interest by analyzing web visit patterns to official occupation pages (Berufeseiten at BIBB) alongside social media data from YouTube and X (formerly Twitter). We examine both visit duration and frequency metrics, extending our previous work on social media analysis to create a comprehensive multi-source data framework. Building on established methods for making German labor market data interoperable through GLMO and KldB classifications, we apply correction factors (κ) and representativeness measures to integrate heterogeneous data sources. Historical analysis reveals temporal trends in occupation-related information-seeking behavior, offering valuable insights for curriculum development and resource allocation. This mixed-methods approach demonstrates how novel digital data sources can complement traditional labor market statistics, providing real-time indicators of changing vocational interests and emerging skill requirements in the German VET system.

Keywords: online data, social media data, vocational education development, curriculum development, industrial transformation, Germany

Biographical notes:

Felix Derksen is researcher at the Federal Institute for Vocational Education and Training (BIBB), Germany. He pursues studies at TH Cologne in the information and data science programme.

Dr Michael Tiemann is a senior researcher and co-head of the Department of Qualification, Occupational Integration and Employment at the Federal Institute for Vocational Education and Training (BIBB), Germany. His research interests focus on the development of occupational contents and requirements, knowledge in occupations and at the workplace, and the application of computational social science methods.

PD Dr Jens Dörpinghaus is postdoctoral researcher at Department 1, VET Research and Monitoring and Employment at the Federal Institute for Vocational Education and Training (BIBB), Germany. He is also lecturer (Privatdozent) at the University of Koblenz and Linnaeus University (LNU) in Växjö, Sweden. His research focuses on computational social science, data science methods, and big data analytics.

Title: Enriching Work-Related and Vocational Learning in Higher Education Through Innovation, Diversification, and Digital Technology

Dr Natasha Kersh

Associate Professor
IOE - Education, Practice & Society, UCL
n.kersh@ucl.ac.uk

Dr Andrea Laczik

Director of Research
The Edge Foundation
alaczik@edge.co.uk

Abstract:

Context: This study is part of a multinational Asia Europe (ASEM) Lifelong Learning Hub project examining how innovation, digital technology, and diversification enrich vocational and work-related learning across diverse global contexts. **Purpose:** The UK project explores how higher education prepares graduates for the world of work, focusing on links between academic study, work-related experience, and the role of digital technologies in supporting practical, employability-enhancing approaches. **Theoretical grounds:** The research draws on innovation, diversification, and boundary-crossing frameworks to explore how graduates forge links between higher education and workplace or vocational learning environments. (Tuomi-Gröhn & Engeström, 2003; Akkerman & Bakker, 2011). **Methods:** A qualitative case-study approach was used to examine vocationally related and practically based learning in higher education. Data were collected through twenty semi-structured interviews with staff, students, and other stakeholders. **Findings and conclusions:** Findings show active co-creation of learning spaces by universities, industry partners, and students, with digital technologies increasingly enabling collaboration and strengthening university-industry links.

Keywords: higher education, work-related learning, boundary-crossing, employability (max 5 key words in English)

Biographical notes:

Dr Natasha Kersh

Natasha Kersh is an Associate Professor in Education at the IOE, UCL's Faculty of Education and Society (UK). Her research interests and publications relate to the study of VET and workplace learning, school-to-work transitions and adult education in the UK and internationally. Natasha is a Senior Fellow of the Higher Education Academy (UK).

Dr Andrea Laczik

Andrea is the Director of Research at the Edge Foundation. She has over 20 years of education research and policy evaluation experience while working at Oxford and Warwick Universities and Edge. Her broad interests cover Vocational Education and Training (VET) and apprenticeships at all levels, employer engagement in VET and general education, skills development, innovative/alternative higher education, youth transition and trajectories and provisions for young people and adults from disadvantaged backgrounds.

Digital competences in VET classrooms: intrinsic motivation as a facilitator for digital skills**Laura Getz***

Federal Institute for Vocational Education and Training (BIBB)
Department: Initiatives for VET, KoDiA project coordination
E-mail: getz@bibb.de

Michael Heister

Federal Institute for Vocational Education and Training (BIBB)
Head of Department for Initiatives for VET
E-Mail: heister@bibb.de

Lilli Heimes

Federal Institute for Vocational Education and Training (BIBB)
Department: Initiatives for VET, KoDiA project
E-Mail: lilli.heimes@bibb.de

Tim Komorowski

Federal Institute for Vocational Education and Training (BIBB)
Department: Initiatives for VET, KoDiA project
E-Mail: tim.komorowski@bibb.de

Daniel König

Federal Institute for Vocational Education and Training (BIBB)
Department: Initiatives for VET, KoDiA project
E-Mail: daniel.koenig@bibb.de

Meike Weiland

Federal Institute for Vocational Education and Training (BIBB)
Department: Initiatives for VET, managing director of the Working Group for Vocational Education and Training (Arbeitsgemeinschaft für Berufliche Bildung e.V.)
E-Mail: weiland@bibb.de

* Corresponding author

Abstract:

Within the research project KoDiA (competences for the digital world of work) the Federal Institute for Vocational Education and Training (BIBB) and project partners research digitalization in vocational education and training (VET).

To explore VET students' digital skills, researchers focus on two questions:

1.) How do teachers at VET schools view students' digital skills?; 2.) What interests and needs do VET students have regarding the use of digital media and the advancement of their digital participation?

The self-determination theory (Deci & Ryan, 2008) serves as a theoretical basis, promoting the idea that autonomy, competence and social relatedness foster self-determined, intrinsically motivated learning. The research team applied a mixed methods design using focus groups with VET teachers and an online survey with VET students. Findings show that intrinsically motivated experiences with digital technologies in everyday life and higher school qualifications have a positive effect on digital self-concepts of VET students.

Keywords: vocational education and training; dual VET; digital competences; self-determination theory; learning motivation

Laura Getz is a researcher and project coordinator at BIBB and a PhD candidate at Paderborn University within the Department for Economic Education. Her research interests focus on digital competences in VET and research communication in VET research.

Michael Heister is a researcher and head of department “Initiatives for VET” at BIBB and member of the Learning Systems Platform, a Germany-wide network of experts in the field of artificial intelligence (AI). He focused his research on issues relating to digitalization and AI in the field of vocational education and training

Lilli Heimes is an employee at BIBB. Her focus is on vocational education and training research.

Tim Komorowski is a researcher at BIBB and a psychologist and computer scientist. He is currently pursuing his doctoral dissertation on the application of artificial intelligence (AI) in the context of working life. His research focuses on quantitative methods in vocational education and training research. Furthermore, he contributes to a working group dedicated to the risk assessment of occupational psychological stress.

Daniel König is a researcher at BIBB. His research interests focus on digitalization, digital competences and AI in VET.

Meike Weiland is a researcher at BIBB and managing director of the Working Group for Vocational Education and Training (Arbeitsgemeinschaft für Berufliche Bildung e.V.). In addition to digitalization and artificial intelligence, her research interests include vocational education and training, democracy education, open access, and qualitative and quantitative research methods.

Teachers' Competence Requirements for Sustainability Transformation in the Context of Project-Based Learning

Julia Hufnagl*

Chair of Business Education

University of Bamberg

E-mail: julia.hufnagl@uni-bamberg.de

Christina Schell

Chair of Business Education

University of Bamberg

E-mail: christina.schell@uni-bamberg.de

Silvia Annen

Chair of Business Education

University of Bamberg

E-mail: silvia.annen@uni-bamberg.de

* Corresponding author

Abstract:

To effectively promote sustainability skills in vocational education, teachers must create learning environments that prioritize learner participation. The present study examines how teachers in the German dual system can integrate sustainability through project-based learning, thereby seeking to validate existing competence models and define sustainability requirements. The study addresses the following question: What competencies are required of teachers to provide sustainability education in a project-based, participatory learning environment? To answer this question, 16 interviews with apprentices and two focus groups with future teachers are evaluated using qualitative content analysis.

The findings reveal that future teachers emphasize organizational skills, while apprentices highlight the need for practical orientation and transfer competences. The disparate foci of the schools and companies necessitate the integration of experiential learning with systematic specialist knowledge, the supplementation of company practices, and the fostering of inter- and transdisciplinary collaboration to develop sustainability skills effectively.

Keywords: Project-Based Learning (PBL), Education for Sustainable Development (ESD), teachers' competencies, teacher education

Biographical notes:

Julia Hufnagl is a research associate and PhD candidate at the Chair of Business Education at the University of Bamberg (Germany) and member of the Bamberg Graduate School of Social Sciences. Her research foci are sustainability in vocational education and training (VET), discrimination processes in VET, and intersectional educational disadvantage.

Christina Schell is a Master's graduate in Business Education from the University of Bamberg. She currently works in University Recruiting at Reply (IT consultancy), where she applies her academic background and combines it with her interest to attract and develop emerging talents.

Silvia Annen is Professor of Business Education at the University of Bamberg since 2020. Her research focuses on international comparative VET research, (international) recognition of

qualifications and competences, educational decisions and pathways as well as vocational research especially in trade.

The Role of School Maintaining Bodies on Digital Transformation in Vocational Education – Potentials for Action on Digitalisation Management for Vocational Schools

**Susanne Enssen,
Chantal Mose,
Monique Ratermann-Busse**

School maintaining bodies are facing the growing challenge of supporting vocational schools in the context of technological developments by managing digitalisation comprehensively. In their role, they are responsible for developing the digital infrastructure further, creating the conditions that enable the effective use of digital technologies within the framework of media development planning, and integrating digitalisation programmes into strategic planning (Hermstein, 2021). They operate within the multi-level system of vocational education and training, balancing state requirements and the needs of the vocational schools. Constructive collaboration between the school maintaining body and vocational schools is particularly important in this context. This is because vocational schools are dynamic organisations that must constantly evolve in response to digital and technological change in the labour market. Only in this way can they create vocational learning conditions that prepares their students for the changing demands of the labour market and work practices shaped by digital technology. The potential for action by school maintaining bodies in intra-organisational (cooperation within the district administration) and inter-organisational constellations (cooperation with vocational schools, IT service providers, school supervisory authorities, etc.) is determined by various state-related institutional and region-specific framework conditions, which place them in a field of tension, e.g. between responsibilities in the context of internal and external school affairs and decision-making powers at state and municipal level (Hackstein & Fischer 2024; Weiß 2012).

The contribution therefore focuses on the following question:

What potentials for action do school maintaining bodies have in the field of digitalisation management to support vocational schools in times of technological transformation?

The question is analysed under consideration of intra- and inter-organisational actor constellations as well as various state-related institutional and region-specific framework conditions. The empirical foundation of the contribution is based on the initial results of the project „Digitalisation Management for Vocational Schools (DiMaBBS)“, which involved an online survey of representatives of the school maintaining body in five federal states of Germany (survey completion rate: n = 103; valid cases: n = 161). In addition, interviews were conducted with representatives of the school maintaining bodies (current status: n = 6; number of participants: 18). Qualitative content analysis (Mayring, 2015) of the data provides insights into the current state of digitalisation management and its regional variations. The quantitative and qualitative data are linked in a mixed-methods design sense (Kuckartz, 2014). The theoretical basis is formed by organisational sociological (Preisendörfer, 2016) and educational governance (Kussau & Brüsemeister, 2007) approaches.

Initial results show that the potentials for action by the school maintaining bodies for needs-based digitalisation management is determined by the different state and regional-specific framework conditions. The level of development in terms of digitalisation management for vocational schools varies significantly in some cases, for example with regard to the establishment of team structures within the district administration and in cooperation with school supervisory authorities and state-specific support actors. As a result, vocational schools develop varying agility to respond to changing labour market requirements and to shape vocational

learning for students in the context of digital transformation.

Participants' List

Aarkrog, Vibe	Klein, Paula
Ahrend, Ulrich	Kontio, Janne
Aliaga Abanto, Oscar	Kostadinovska, Katerina
Allais, Stephanie-jo	Kühn, Ida Kristina
Annen, Silvia	König, Daniel
Antera, Sofia	Laaksonen, Aija Kaarina
Batt, Sarah	Laczik, Andrea
Bin Udar, Jaikol	Li, Mixue
Broberg, Åsa	Li Hsia, Lee
Brutzer, Alexandra	Lindberg, Viveca
Burden, Jenifer	Liu, Yee Man Mandy
Cardozo Martins, Kelvin	Lucić, Marko
Chan, Ka Wah	Mack, Abede
Chung, Lai Nga	Man, Tse
D'Agostino, Roberta	Markert, Dr. Jana
D'Agostino, Sandra	Maurer, Markus
Derksen, Felix	McDonald, Rory
Díaz Guevara, Juan Carlos	Mcgrath, Simon
Dr. Jonas-Ahrend, Gabriela Sybille	Mestre, Antoni
Dörpinghaus, Jens	Meyne, Lisa
Elsholz, Uwe	Mohd Affandi, Haryanti
Enssen, Susanne	Moreno Herrera, Lázaro
Ertl, Hubert	Mose, Chantal
Esser, Alexander	Moso Díez, Mónica
Fung, Siu Kuen Maggie	Mustaffa Kamal, Mohd Firdaus
Gendron, Benedicte	Münk, Dieter
Gericke, Erika Edith	Nardi, Paolo
Gessler, Michael	Nokelainen, Petri
Getz , Laura Maria	Nägele, Christof
Harris, Andrea	O Reilly-Briggs, Karen
Helmrich, Robert	Orr, Kevin
Huber, Daiana-Mariana	Paul, Enni
Hufnagl, Julia	Pauwels, Lyssa
Hui, Hon Wing	Pavlakakis, Emmanouil
Hunink, Claudia	Peitz, Nina-Madeleine
Imdorf, Christian	Peters, Susanne
Ixmeier, Sebastian	Pilz, Dr Matthias
Jambor, Thomas	Pool Maag, Silvia Anna
Jan, David Michel	Quintana-Murci, Elena
Jan, Keiko	Ramsarup, Presha
Johansson, Håkan	Ratermann-Busse, Monique
Kaiser, Anita	Ricou, Marcel
Kaiser, Franz	Ross, Rachel
Kersh, Michael	Saksen, Tobias
Kersh, Natalia	Sandal, Ann Karin
Kimmelmann, Nicole Sandra	Schneider, Ursula
Kindevåg, Åsa	Spetalen, Halvor
Klatt, Christiane	Teräs, Taina Marianne
Klaus, Frieda	Tiemann, Michael

Trutwin, Lucas
Tugores Ques, Maria
Tuytens, Melissa
Udelhofen, Stefan
Wagner, Pia Sabrina
Warren, Shona
Vernholz, Mats
Yeung, Pang Hon
Yturria Montenegro, Pedro Luis
Yun, Pui Ho Patrick