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Voices from Research

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Book of Abstracts



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

Marianne Teräs, Lázaro Moreno Herrera, Janne Kontio & Emma West

Keynote 1: Enhancing Vocational Learning and Professional Development with Multidisciplinary Methods and Technologies

Raija Hämäläinen PhD, Professor

<https://www.jyu.fi/edupsy/fi/laitokset/kat/henkilosto/hamalainen-raija>

Department of Education

P.O.Box 35, FIN-40014

University of Jyväskylä, Finland

Tel +358 40 7442611

Abstract: The twenty-first century calls for novel, flexible skills and abilities in shared learning and working practices. Education must aim not only to nurture the development of specific knowledge and professional competencies but also to support and teach productive learning processes. Thus, we need to understand how learning and interaction processes occur and unfold over time. I will discuss the relationship between VET adults' skills and their educational needs in these realms, based on large-scale assessment studies. I will further elaborate our research progress in learning and professional development. Finally, I will consider how research can capture interaction processes (with novel methods) and take the time variable into account to provide valuable insights into how to design, test and refine technologies and approaches for designing and supporting learning and professional development.

Wednesday, May 11th
Paper Session 1: Migration and Inclusion in VET

Dropout Factors during the First Year of Intermediate Vocational Education and Training

Rubén Comas-Forgas*

Balearic Islands University
Institute for Educational Research and Innovation
Campus UIB A. Turmeda 185, 07122, Palma de Mallorca, Spain.
E-mail: rubencomas@uib.es

Antoni Cerdà-Navarro

Balearic Islands University
Institute for Educational Research and Innovation
Campus UIB A. Turmeda 185, 07122, Palma de Mallorca, Spain.
E-mail: antoni.cerda@uib.cat

* Corresponding author

Abstract: First of all, this article justifies the strategic importance of the analysis of Intermediate Vocational Education and Training in the context of early school leaving, a key area for intervention and, paradoxically, scarcely studied. Second, based on the data obtained from a study on dropout at this educational level in Spain, a bivariate analysis and logistic regression are performed to establish which factors are related to dropout during the first year of Intermediate Vocational Education and Training and to what extent they do it. The results obtained indicate that some sociodemographic variables traditionally associated with dropout, such as immigrant status, gender, age or the educational level of the parents, are not significant in predicting the dropout that occurs during the first year of Intermediate Vocational Education and Training. On the contrary, other variables such as characteristics of the center/school, personal educational background and itineraries, self-perception of the economic situation, and choosing the training programme in which students are enrolled based on expressive reasons are especially relevant. The importance of this article lies in the scarcity of data and research focused on the dropout that occurs in Intermediate Vocational Education and Training, but also in the need and usefulness of an initial exploratory analysis that lays the foundations for continuing research on this topic. In addition, data provided may be useful for the field of educational intervention aimed at reducing the dropout that occurs at this educational level.

Keywords: Early Leaving from Education and Training, Intermediate Vocational Education and Training, Dropout Factors.

Biographical notes:

Dr. Rubén Comas-Forgas is an Associate Professor member of the Institute for Educational Research and Innovation at the University of the Balearic Islands, Spain. He has been a visiting researcher at several international centers, among which are: University of East Anglia (UK), Liverpool John Moores University (UK), Panteion University of Social and Political Sciences (Greece), Autonomous University of Yucatan (Mexico). His research interests focus on Academic integrity, Educational and social uses of ICT, Environmental Education, Early School Leaving.

Dr. Antoni Cerdà-Navarro is an Assistant Lecturer member of the Institute for Educational Research and Innovation at the University of the Balearic Islands, Spain. He has been a visiting researcher at several international centers, among which are: Swiss Federal Institute for Vocational Education and EHB (Switzerland) and Centre d'études et de recherches sur les qualifications (France). His fields of expertise are sociology of education and work as well as research methods and techniques.

“Back to Work” – Facilitating Factors for Migrants’ Re-entering to Their Previous Vocations

Eva Eliasson*

Stockholm University
Department of Education
Frescativägen 54
10691 Stockholm
eva.eliaasson@edu.su.se

Marianne Teräs

Stockholm University
Department of Education
Frescativägen 54
10691 Stockholm
Marianne.teras@edu.su.se

Ali Osman

Stockholm University
Department of Education
Frescativägen 54
10691 Stockholm
Ali.osman@edu.su.se

* Corresponding author

Abstract: This paper focuses on “successful migrants”, who have succeeded in getting an employment in Sweden, mostly in their previous vocation. The aim is to describe factors on different levels, individual, organizational and national, that have facilitated migrants’ way back to work as well as their inclusion at workplaces. 20 migrants and 5 employers/mentors have been interviewed. The overarching themes of facilitating factors concerns language proficiency, individual factors and supporting persons and networks. In the migrants’ narratives, a central theme is how to deal with the threat on their social and professional identity in the new country. For them, it has been necessary to maintain a positive self-image in order to have the strength to fight for a return to working life. People in the environment are important in this struggle, in their positioning of them as competent persons and for offering support.

Keywords: Migrants, employment, facilitating factors, identity

Biographical notes:

Dr Eva Eliasson is a Senior Lecturer in Educational Science in the Department of Education, Stockholm University. Her research interests mainly concern vocational and teacher knowledge, especially in health care education, and the interplay between power relations and vocational knowledge. Her current research concerns how migrants in Sweden gain access to their previous vocation.

Dr Marianne Teräs is a Professor in the Department of Education, Stockholm University, Sweden. Before joining Stockholm University (2016) she worked as a researcher and a lecturer at the University of Helsinki. Her research mainly focuses on vocational and professional learning, immigration and interculturality. She is currently leading a research project called “Integration and Inclusion of Migrants in and through Vocation and Work”.

Dr Ali Osman is an Associate Professor in the Department of Education, Stockholm University, Sweden. His research interests are migration, recognition of prior learning, transition between different educational systems and working life.

From Workforce Immigration to Inclusion – A Research Proposal on Vocational Education and Training Development in Relation to Society Changes and Immigration in a Historical Perspective

Åsa Broberg*

Stockholm University
Department of Education
Frescativägen 54, 106 91 Stockholm, Sweden
E-mail: asa.broberg@edu.su.se

Lazaro Moreno Herrera

Stockholm University
Department of Education
Frescativägen 54, 106 91 Stockholm, Sweden
E-mail: Lazaro.moreno@edu.su.se

Ali Osman

Stockholm University
Department of Education
Frescativägen 54, 106 91 Stockholm, Sweden
E-mail: ali.osman@edu.su.se

* Corresponding author

Abstract: Since the mid 1950s Sweden has experienced two major challenges: a shift from an industrial based economy to a knowledge intensive and service-oriented economy. In addition, during this period, Sweden has also experienced an increase in immigration. The interplay of these developments has created a variety of challenges, amongst others the inclusion of immigrants in the labour market and society. This research project examines the role played by vocational education and training (VET) in response to structural changes and in the inclusion of immigrants in the Swedish labor market and society.

The project consists of three interrelated studies, a historical study and two interview studies. The historical study examines, through study of documents, how VET provision has changed over time as a consequence of structural changes and VET’s role in the inclusion of immigrants in the labour market from the 1950s to today. The interview studies aim to investigate the perception of immigrants of how VET has influenced their opportunities for inclusion in the Swedish labor market and their establishment in the Swedish society. The first study focuses on immigrants who worked in the car mechanics industry from the 1950s to the 1990s. The second study focuses on immigrants currently working in this branch. Expected outcome of the project is a deeper understanding of the role that VET has historically played in the inclusion of immigrants in the Swedish labor market society.

Keywords: Vocational education and training (VET), inclusion, immigration, labour market

Paper session 2: Choices, Agency, and Well-being in VET

Why Vocational Education? Education Choice Rationale of Recent Vocational Graduates

Elsa Eiríksdóttir

University of Iceland

School of Education

Stakkahlíð, 105 Reykjavík, Iceland

elsae@hi.is

Abstract: One of the major challenges to vocational education and training (VET) in Iceland is how to increase VET participation. Educational authorities have tried various measures without much success. Research on educational choice at the upper secondary level shows a complex interplay of different individual and societal factors. Therefore, it is important to investigate why students choose VET. Recent VET graduates ($N = 319$) answered a questionnaire on their educational choice. The results showed that interest is important, but also views on occupations and future prospects. Other factors also played a role, such as the opinion of friends, employment opportunities, negative selection (no academics), and coincidence. Only 19% of participants did not have any knowledge of the field before starting and the majority knew someone in the trade. The findings can add to the understanding of why students choose to study VET in Iceland and how to increase VET participation.

Keywords: Vocational education and training, Upper secondary schools, Educational choice, Educational pathways

Biographical notes:

Elsa Eiríksdóttir is an associate professor at the University of Iceland, School of Education. She completed a BA degree in psychology from the University of Iceland in 1999 as well as a master's degree and a PhD in engineering psychology from Georgia Institute of Technology in Atlanta in 2007 and in 2011, respectively. Her research interests include learning, transfer of training, skill acquisition, and vocational education and learning.

Bienvivance for Inclusive Vocational Excellence, a Well-Being Paradigm of Quality of Life in Vocational Education and Training: Toward VETfulness

Prof. Dr. Bénédicte Gendron

University Montpellier

Department of Sciences of Education,

University Montpellier 3-Lirdef, France

Email: benedicte.gendron@univ-montp3.fr

Abstract: Enabling pedagogy and collaborative learning developed in VET schools in South of France through collaborative or mini-enterprises projects shows that if the pedagogy focus on what “we have and what we are” i.e VET students’ assets, their «potentials» instead of

their lacks, it helps at reinventing themselves their life with positive creative and rebuilding perspectives, VETfulness more than VET through a positive operational holistic paradigm of well-being and quality of life named Bienvivance. It explores and recognizes the potential of everyone, and facilitates and promotes inclusive excellence. Focused at creating opportunities and enabling environments to boost everyone's potential and to find their own fulfilled way of living, this approach through a lens of transformative agency, is to empower people. The research shows that VET students rebuild their emotional capital, they recover their self-confidence and esteem, acceptance of Others difference and facilitate and promote inclusive excellence.

Keywords: Inclusive Excellence, Bienvivance, Vocational Education and Training
VETfulness, Emotional Capital, Collaborative and Enabling, Pedagogy, Mini-enterprises.

Biographical notes:

Prof. Dr. Bénédicte Gendron, former Vocational Education and Training Vice-President of University Montpellier 3 in France is a professor in education and human development earned a PhD in Economics of Education and Human Resources and a PhD in Psychology & Neuropsychology, after a Post-doctoral research at UC. Berkeley (USA). Combining Economics, Psychology and Neurosciences her research is focused on “Bienvivance”, “Vibratory and Enabling Leadership” and “Emotional Capital” for a better quality of life and Inclusive Excellence in Vocational Education and Training.

How Attractiveness Influence Agency in the Industrial Technology Program

Maria C. Johansson, PhD.

Malmo University, Sweden
Department of School Development and Leadership
E-mail: maria.c.johansson@mau.se

Hamid Asghari, PhD.

Karlstad University, Sweden
Department of Educational Studies
E-mail: hamid.asghari@kau.se

Abstract: Vocational Education and Training in Sweden suffers from a declining interest. In the 1980 around 70 % among the students chose a vocational track. Today, this figure is around 30 %. The situation is especially difficult for the Industrial Technology Program (ITP). Thus, the Industry experience difficulties in recruiting. So, even though ITP pays off in the labour market the program does not seem to attract young people. In previous research it turned out that the narratives connected to the Industrial Technology were quite paradoxical, revealing both negative descriptions as well as those of complex vocational knowing and pride. Here we turn the interest towards the relation between agency and attractiveness of ITP. The aim is to analyse the agency of promoting the ITP in relation to the limited attractiveness of the program. As our methodological stance we have taken a pragmatic orientation, using inspiration from the narrative research. We have conducted eight interviews with students and teachers in the ITP: To support the analyses we use the theory of agency with its temporal and relational elements. Our preliminary results reveal that the agency to promote the program among those involved in ITP is restricted as their positive accounts are not in line with the common narrative about ITP. Based on our preliminary results we discuss ways forward for other ways of talking about vocational education in general and particularly ITP.

Paper Session 3: E-portfolio, Simulation and VET teachers

E-portfolios as Drivers for Innovation in Vocational Education and Training

Hæge Nore*

OsloMet – Oslo Metropolitan University
Department of Vocational Teacher Education
P.o box 4, St.Olavs Plass, 0130 Oslo, Norway
E-mail: hnore@oslomet.no

Leif Chr. Lahn

OsloMet – Oslo Metropolitan University
Department of Vocational Teacher Education
P.o box 4, St.Olavs Plass, 0130 Oslo, Norway
E-mail: l.c.lahn@iped.uio.no

Birger Brevik

OsloMet – Oslo Metropolitan University
Department of Vocational Teacher Education
P.o box 4, St.Olavs Plass, 0130 Oslo, Norway
E-mail: bbrevik@oslomet.no

* Corresponding author

Abstract:

Increasingly, ePortfolios are brought in as innovative ways of linking work and learning in vocational education and training. But, in the Norwegian sequential dual system, ePortfolios are still designed according to the two different contexts and without any transfer from the school-based part to apprenticeship. This paper is build on an innovation and research project, the HELDAL-project funded by the Norwegian Research Council 2019-2022. The project engages teachers, trainers and training offices as well as system developers in co-constructing both ePortfolios as tools as well as their didactical use across contexts. In line with design-based research, the researchers develop design-criteria, interacting with local innovations, analyze and feedback results. By supporting stronger cooperation across learning arenas and vocations we have identified a number of critical factors in the development of ePortfolio designs and use. The many local initiatives are driven by a common interest for ePortfolios as learning tools in VET.

Keywords: e-portfolio, boundary-crossing, innovation, didactics

Biographical notes:

Hæge Nore is a professor (em) at the Department of Vocational Teacher Education at OsloMet. Her research interests include workplace learning, e-portfolios, hybrid learning, assessment in VET and recognition of prior learning.

Dr. Leif Chr. Lahn is a professor (em) at the University of Oslo and at the Department of Vocational Teacher Education, OsloMet. His research interests include technology-enhanced learning at work, self-regulated learning and mixed methods.

Dr. Birger Brevik is an associate professor at the Department of Vocational Teacher Education at OsloMet. His research interest is vocational teachers' digital literacy in general, and vocational teachers' use of digital learning tools in particular.

Students' Learning in Analogue Simulation – A Hybrid Training Environment

Vibe Aarkrog

Aarhus University

Department of Education

Tuborgvej 164, 2400 Copenhagen NW, Denmark

E-mail: viala@edu.au.dk

Abstract: The paper reports and discusses the results from a project about students' learning in analogue simulation in a hybrid learning environment in the Danish social and health care assistant programme. Pinpointing the huge drop-out among the students to the transition from school-based training to practical training, the Ministry of Education has funded a developmental and research project the purpose being to gain knowledge about facilitating the students' transition from school to workplace. The experiment includes developing and testing simulation-based training in a hybrid learning environment at the care homes, hybrid meaning that the environment combines elements from school and workplace. The results presented in the paper stem from the pilot project (2021-2022) that has been conducted in six care homes. The students have been divided into test groups and control groups (3-4 students in each group). Through qualitative studies (observations and interviews) as well as assessment of the students' competences, the two groups have been compared with regard to their learning processes and learning outcome.

Keywords: Hybrid training environment, Simulation, learning process motivation

Biographical notes:

Dr Vibe Aarkrog is an associate professor at the Department of Education at Aarhus University, Denmark. Her research interests focus on pedagogical and didactical issues related to the interrelation of theory and practice.

The Profile of Non-Qualified Teachers in Swedish VET

Sofia Antera *

Stockholm University

Department of Education

Frescativägen, Postcode, Stockholm, Sweden

E-mail: sofia.atera@edu.su.se

* Corresponding author

Abstract: With a growing shortage of vocational teachers, Sweden has decided their exemption from the requirement of teaching qualifications for employment. This has led to a group of non-qualified teachers, who are not often captured or described in national statistics or previous research. This study aims to draw the profile of non-qualified vocational teachers, showing the potential differences between qualified and non-qualified vocational teachers regarding the competence they perceive important and competence they think they have achieved. The data was collected with an online questionnaire including a 27-item scale of important and achieved competence evaluated by teachers. Regarding importance, statistically significant differences were found in 10 items, most of which are connected with formal teacher training. With reference to achieved competence, statistically significant differences were reported in 16 items, where non-qualified teachers reported having developed all items in a considerably

lower extent than the qualified ones. Concluding, aspects of teaching competence seem to be attributed with lower value by non-qualified teachers, who also report lower achievement of these competence.

Keywords: non-qualified teachers, teacher training, competence, VET in Sweden

Biographical notes:

Sofia Antera is a PhD candidate in the Department of Education, Stockholm University, Sweden. Her research interests focus on vocational education and training (VET), teacher training, professional competence development and adult education.

Paper session 4: Apprenticeship and Rural Economy

Understanding the ‘Meaning’ of Apprenticeships in their Cultural and Historical Context

Isabelle Huning

University of York
Department of Social Policy and Social Work
Church Lane Building,
York Science Park Heslington
York, YO10 5ZF
E-mail: Isabelle.uning@york.ac.uk

Abstract: This paper studies the historical development of language, meaning, and narrative in the political debate on vocational education systems. It discusses the cultural role of apprenticeships (and their reputation and attraction) as an outcome of historical context. Drawing on a data set of all German and UK parliamentary debates between 1946 and 2019, party manifestos, as well as a selection of parliamentary documents and press releases, I present preliminary results of a quantitative and qualitative text analysis, based on frequency, sentiment, and context of terms related to vocational and competing education systems used in the debates. These data suggest themes and developments that help us to understand differences across VET systems over time and between nations, and their reputation beyond historical accounts of formal institutionalisation.

Keywords: institutionalisation, historical development, comparative VET research, path dependency, cultural context

Biographical notes:

Isabelle Huning is a PhD candidate at the Department of Social Policy and Social Work at the University of York, UK. Her research focusses on the cultural context of institutionalisation of VET systems, and the relevance of language and meaning within the institutionalisation process. She holds an M.Ed. in Vocational Education (Leuphana University Lüneburg) and an M.A. in Social Policy (University of York).

Exposure for Learning as Experience – Mobility within Swiss Apprenticeships

Antje Barabasch*

Swiss Federal University for Vocational Education and Training (SFUVET)
Research & Development
Kirchlindachstr. 79
CH 3052 Zollikofen
E-mail: Antje.Barabasch@ehb.swiss

Anna Keller

Swiss Federal University for Vocational Education and Training (SFUVET)
Research & Development
Kirchlindachstr. 79
CH 3052 Zollikofen
E-mail: Anna.Keller@ehb.swiss

* Corresponding author

Abstract: Today, young adults need to be stronger equipped with transversal competences to adapt to changing demands at the labour market. However, these skills, which are partially viewed as traits, cannot be taught, but acquired, for example by being exposed to a variety of different work and learning settings. Within the public transportation sector, a Swiss training provider ensures that apprentices switch between different training places over the course of their apprenticeship, changing work tasks, locations and even language spoken. Based on theories about education as an experience (e.g. Locke, Dewey) we will critically elaborate on how the experience is a transaction between self and environment and how apprentices are able to develop competences, such as adaptability, flexibility, communication and cooperation skills. Data are derived from a case study within the public transportation sector, comprising 24 semi-structured interviews and two focus groups with apprentices, 16 trainers, 5 supervisors and 12 managers as well as 12 observations.

Keywords: learning as experience, exposure, transversal skills, apprenticeship, public transportation sector

Biographical notes:

Prof. Dr. Antje Barabasch is head of the research axe “teaching and learning in PVET” at the Swiss Federal University for Vocational Education and Training (SFUVET). Her research is concerned with new learning cultures in apprenticeship training in Swiss enterprises, creativity development and VET policy transfer. She holds a Ph.D. in Educational Policy Studies and Social Foundation from Georgia State University and has worked as senior researcher and visiting professor at universities in Germany, Canada, the United States and Cedefop in Greece.

Anna Keller works as Junior Researcher in the research field «Learning cultures and instruction» at the Swiss Federal University for Vocational Education and Training (SFUVET). She participates in a project concerned with innovative learning cultures in Swiss enterprises and in research about occupation-specific didactics in VET. She graduated with a master of science in education at the University of Bern in 2017 and is now completing her PhD at SFUVET.

Need Analysis for Adopting Cooperative Learning STAD Approach for Building Drawings Subject in the Malaysian Vocational College

Mohd Firdaus Mustaffa Kamal*

Sultan Idris Education University,
Department of Engineering Technology,
Faculty of Technical and Vocational,
36900 Tanjong Malim, Perak Darul Ridzuan, Malaysia
E-mail: firdaus.mk@ftv.upsi.edu.my

Haryanti Mohd Affandi

The National University of Malaysia,
Department of Engineering Education,
Faculty of Engineering and Built Environment,
43600 Bangi, Selangor Darul Ehsan, Malaysia
E-mail: haryantima@ukm.edu.my

Raihanah Md Salleh

Sg. Buloh Vocational College,
Department of Civil Technology,
47000 Sg. Buloh, Selangor Darul Ehsan, Malaysia
Email: raihanah@kvsbkpm.edu.my

* Corresponding author

Abstract: Building drawings is one of the core subjects in Construction Technology course offered in the Malaysian Vocational Colleges curriculum. Existing teaching method for this subject is mostly teacher centered whereby the process of teaching and learning is delivered by the teacher. This research is trying to explore on the possibility of adopting a cooperative learning approach for this subject where we want to transform the conventional approached towards student centered learning. The initial plan is to develop a guideline for developing a cooperative method lesson plan that can be used by the Vocational Colleges' instructors throughout Malaysia. In doing so, need analysis has been carried out to explore on what are the challenges and issues that might be possibly encountered if this approach is been adopted. Interviews has been carried out with instructors from 6 vocational colleges using a semi structured interview protocol. From the interviews, the findings show that there is a lacking in available guideline for instructors to follow. Other issues related to time constraint and also lacking in training on alternative teaching and learning approach. It is suggested a proper guideline need to be made available for the Vocational Colleges' instructors.

Keywords: Need analysis, Cooperative Learning, Lesson Plan, Building Drawings, Vocational College

Biographical notes:

Dr Mohd Firdaus Mustaffa Kamal is a lecturer in the Department of Engineering Technology, Faculty of Technical and Vocational, Sultan Idris Education University, Malaysia. His research interests focus on content and curriculum development in the construction technology and construction management education.

Assoc. Prof Ts Dr Haryanti Mohd Affandi is a senior lecturer at the Department of Engineering Education, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia. Her research interests focus on competency development, measurement and evaluation, and construction management. Her research has been established in the scope of TVET at the national and international levels.

Paper Session 5: VET Quality Issues

The Quality of Swiss Initial Vocational Education and Training: Perceptions of Field and Institutional Stakeholders

Florinda Sauli*

Swiss federal university for vocational education and training
Via Besso 84
6900 Lugano, Switzerland
E-mail: Florinda.Sauli@hefp.swiss

Matilde Wenger

Swiss federal university for vocational education and training
Av. De Longemalle 1
1020 Renens, Switzerland
E-mail: Matilde.Wenger@hefp.swiss

Jean-Louis Berger

University of Fribourg
Rue Faucigny 2
1700 Fribourg, Switzerland
E-mail : Jean-Louis.Berger@unifr.ch

* Corresponding author

Abstract: The topic of dual initial vocational education and training (IVET)'s quality is gaining in importance worldwide. The characteristics of such quality can vary considerably depending on the learning location, the stakeholders or the professional field. We examined IVET quality's perceptions of field stakeholders (apprentices, teachers and in-company trainers) and institutional stakeholders (IVET office responsible and apprenticeship inspectors). Participants (n=75) from four occupational fields (hair dressing and beauty, commercial employee, construction and retail) of the Swiss IVET were interviewed. Thematic data analysis was realized following an inductive approach. A framework about IVET quality was built by successively integrating each stakeholders' perspective. It resulted in a comprehensive model including a set of aspects *influencing* and *composing* IVET quality spread on several levels of the IVET system (micro, meso and macro). Analysis revealed that institutional stakeholders tend to associate IVET quality to aspects influencing such quality, while field stakeholders associate it more to aspects composing it. Further results will be presented.

Keywords: dual VET, perceived VET quality, stakeholders

Biographical notes:

Florinda Sauli is junior researcher at the Swiss federal university for vocational education and training SFUVET. Her research interests are perceptions of the training quality by institutional and field stakeholders in the context of Swiss vocational education and training.

Matilde Wenger is junior researcher at Swiss federal university for vocational education and training SFUVET. Her research interests are teachers' gender identities; apprentices', teachers', and trainers' perception of training quality; and apprentices' role stress in dual vocational education and training.

Jean-Louis Berger is professor of educational psychology at the University of Fribourg, Switzerland. In addition to vocational education and training, his research interests include self-regulated learning, help seeking, and student and teacher motivation.

How to Asses Dual VET Quality? A Quality Model and Results in Spain

Pilar Pineda-Herrero*

Autonomous University of Barcelona
Department of Theory of Education and Social Pedagogy
Campus Bellaterra, 08193, Bellaterra, Barcelona, Spain
E-mail: pilar.pineda@uab.es

Sara Rodríguez Pérez

University of Oviedo
Department of Education
C/Aniceto Sela s/n, 33005, Oviedo, Asturias, Spain
E-mail: rodriguezpsara@uniovi.es

Mónica Torres Sánchez

University of Malaga
Department of Theory and History of Education and Methods of Research and Diagnosis in Education
Campus de Teatinos s/n, 29071, Málaga, Spain
E-mail: motorres@uma.es

* Corresponding author

Abstract: The agents involved in Dual VET agree that quality is a key element for its success. In Spain Dual VET has been developed during the last 10 years with important improvements, both on the number of participants and on results. But a national Dual VET quality framework is still needed, in order to ensure a high impact on student learning outcomes and companies and educational centers with real added value.

This project is focused on the creation of a quality Dual VET system for the Spanish regions. Two instruments have been developed, with the participation of experts and policy makers: one online questionnaire for companies and another for educational centers. This paper presents the pilot of the quality Dual VET system; the results obtained from 97 educational centers and 48 companies show a good quality of Dual VET in Spain, but also many areas of improvement, specially in labour conditions, assessment and evaluation of learning.

Keywords: Vocational education and training; dual VET; vocational education teachers; training centers; apprenticeship.

Biographical notes:

Dr Pilar Pineda-Herrero is an assistant Professor of the Department of Theory of Education and Social Pedagogy of the Autonomous University of Barcelona. She has directed many research projects on Continuous Training and on DualVET, special focused on evaluation of training results. She is the coordinator of EFI Research group (Effectiveness of Continuous Training). Pilar has published several books and many research papers about different topics related with education and work.

Dr Sara Rodríguez Pérez is an assistant Professor of the Department of Educational Sciences of the University of Oviedo. She is a teacher and pedagogue. She has participated in research projects on intervention with families in educational spaces, influence of gender in academic decisions, well-being of care leavers, emotional education and Dual Professional Training. She is currently part of the IARS group (Childhood and Adolescence at Social Risk) and EFI group (Effectiveness of lifelong training).

Mónica Torres is an associate professor of International and Comparative Education at the University of Malaga. She was “Visiting Scholar” at the University of Wisconsin-Madison (EEUU) sponsored by the “José Castillejo” Research Program of the Spanish Ministry of Education and Culture. She is the coordinator of the Master of the University of Granada on “Research and Innovation in Curriculum and Teacher Education”. Her research interests focus on comparative education and educational reforms and educational policies.

Quality Online VET: Perceptions of Chilean Students on the Importance of Quality and Gender Perspective

Paloma Fernanda Sepúlveda Parrini*

Autonomous University of Barcelona
Department of Theories of Education and Social Pedagogy
G6 - Office 144 - 08193 Bellaterra
(Cerdanyola del Vallès) - Barcelona - Spain
email: palomafernanda.sepulveda@autonoma.cat

Pilar Pineda Herrero

Autonomous University of Barcelona
Department of Theories of Education and Social Pedagogy
G6 - Office 144 - 08193 Bellaterra
(Cerdanyola del Vallès) - Barcelona - Spain
email: pilar.pineda@uab.cat

Paloma Valdivia Vizarreta

Autonomous University of Barcelona
Department of Theories of Education and Social Pedagogy
G6 - Office 144 - 08193 Bellaterra
(Cerdanyola del Vallès) - Barcelona - Spain
email: paloma.valdivia@uab.cat

* Corresponding author

Abstract: In this research we propose to understand the quality of online VET from a critical perspective that incorporates new perspectives. To this end, we propose the incorporation of a gender perspective (PG) with a cyberfeminist focus, based on the design, validation and application of a questionnaire to 1.583 online VET students from 12 higher education

institutions (IES) in Chile. The objectives were to learn about the students' perceptions of quality and the value that PG currently has and should have in their studies. The findings indicate that students understand quality as transformation and as the adequacy of the stated objectives of IES, and to a lesser extent as selectivity or the relationship between price and quality. While in the current scenario, PG is valued from aspects linked to interactions and dialogue between students and teachers, the expected scenario incorporates aspects linked to accompaniment, conflict mediation and student participation.

Keywords: VET; online higher education; distance education; quality; student perceptions

Biographical notes:

MA Paloma Sepúlveda Parrini is a PhD student at the Department of Theories of Education and Social Pedagogy of the Autonomous University of Barcelona. Her research interests include: online higher education, perceptions of quality and the inclusion of the gender perspective in education. In particular, her current doctoral research explores VET designed in online mode in the Chilean context.

Dra Pilar Pineda Herrero is a Full Professor Organizational Training at the Department of Theories of Education and Social Pedagogy of the Autonomous University of Barcelona. Her research interests include: VET, labor pedagogy and lifelong learning.

Dra Paloma Valdivia Vizarreta is a Postdoctoral research at the Department of Theories of Education and Social Pedagogy of the Autonomous University of Barcelona. Her research interests include: technologies for social innovation, management and planning of socio-educational projects, community empowerment networks and open and inclusive training.

Paper session 6: Gender Issues in VET and the Era of Covid 19

What Is Colored In And What Is Colored Out? – Civic Education in Male Dominated Vocational Programs

Mikael Persson*

Stockholm University
Department of Education
Freskativägen 54, 106 91, Stockholm, Sweden
mikael.persson@edu.su.se

Linda Ekström

Södertörn University
Department of Social Sciences
Alfred Nobels allé 7 Flemingsberg, 141 89 Huddinge
linda.ekstrom@sh.se

* Corresponding author

Abstract: Using themes and examples closely related to students' personal experiences and interests, has become an established way of enhancing students' motivation in educational practices. In Swedish vocational track one such ambition is called "infärgning", coloring, as a

metaphor to make teaching in academic subjects more colorful and interesting for the students. In this paper 12 civic teachers within male dominated vocational programs were interviewed regarding their experiences and opinions regarding “infärgning”. The interviews were analyzed within a discursive analytical framework. Initial results show that certain parts of the civic subject, such as democratic engagement, is understood to be more difficult to *color in* than for example the economy part of the civic subject. Hence, issues of how to become an democratic citizen are colored out, while issues concerning private economy is coloured in. Altogether, the results show an increasing demand for developing didactical skills in order not to deprive the students in these programs’ access to powerful knowledge.

Keywords: Civic education, vocational education, discourse analys, powerful knowledge

Biographical notes:

Mikael Persson is senior lecturer in pedagogy at Stockholm University. Mikael has a PhD in Music Pedagogy and teaches primarily in the vocational teacher educational program. His research is primarily oriented towards questions regarding social justice in the school system.

Linda Ekström is senior lecturer in civic didactics at Södertörn University. Linda has a PhD in Social Sciences and have formerly worked at the Swedish Institute of Educational Research. Her research is oriented towards civics education in particular and democracy aspects of the Swedish school system in general.

Vocational Education for Women – An Invisible History

Åsa Broberg*

Stockholm University
Department of Education
SE-106 91 Stockholm
E-mail: asa.broberg@edu.su.se

Viveca Lindberg

Stockholm University
Department of Teaching and Learning
SE-106 91 Stockholm
E-mail: viveca.lindberg@su.se

Gun-Britt Wärvik

University of Gothenburg
Dept of education and Special Education
Box 300
40530 Göteborg
e-mail: gun-britt.warvik@ped.gu.se

* Corresponding author

Abstract: The history of VET in the Nordic countries tends to either focus on education for male students only, or on the education of nurses, today part of higher education. The 1970s are mentioned as the time when women entered the labor market as a consequence of societal industries (kindergartens, hospitals). Early VET for male students was related to agricultural work, or to technology, industrial work, or craft. We argue that this also applies for early VET

for women: their work within agriculture contributed significantly to the production and economic development in the society.

In this paper we discuss how vocational educations, historically aimed at women, came to be shaped in relation to societal development. With analytical focus on societal motives and contradictions we will show how women's VET significantly contributed to societal production and household finances but also how these educations were developed in relation to advancements within natural sciences and socioeconomic development. We use examples from three sectors: the domestic, textile, and the health care/social care sectors.

Keywords: VET history, Early VET for women, Cultural historical activity theory, Societal Motives,

Biographical notes:

Dr Åsa Broberg is associate professor at the Dept. of Education, Stockholm University, Sweden. Her research focuses on history of education and VET in particular.

Dr Viveca Lindberg is associate professor at the Dep. of Teaching and Learning at Stockholm University, Sweden. Her research focuses on vocational and professional knowing, assessment, and literacy and changes over time.

Dr Gun-Britt Wärvik is professor at the Dept. of Education and Special Education, University of Gothenburg. Her research focuses on politics of education, including demands on new competencies as related to societal changes.

An Analysis of the Educational Experiences of Technical and Vocational Education and Training (TVET) Students During COVID-19

Dr Leena Kloppers

Namibia University of Science and Technology (NUST)

Department of Technical and Vocational Education and Training (DTVET)

E-mail: lkloppers@nust.na

Abstract: With the hit of COVID-19, higher education institutions resorted to the use of Information and Communications Technology (ICT) to minimize face-to-face classes while maintaining the quality and standard of teaching, learning and assessment. While there is a plethora of evidence to support the use of ICT to enhance teaching, learning and assessment, this paper argues that there are a number of factors that prevent higher education institutions from fully benefiting from the claims of ICT enthusiasts. This study used Activity Theory to analyse the narratives of Technical and Vocational Education and Training (TVET) students studying at the Namibia University of Science and Technology (NUST). The analysis of the semi-structured focus group interviews showed that contradictions in the mediators such as ICT tools used for teaching, learning and assessment, institutional and COVID rules and regulations designed to protect and support the students, the community of lecturers, students and other stakeholders in which teaching, learning and assessment took place did not allow for the TVET students to take full advantage of the potential of ICT. It is the contention of this study that as NUST seeks to re-invent teaching, learning and assessment in a post COVID era, close attention needs to be given to the identified contradictions. This will allow for the contradictions transformative power to fully harness the benefits of ICT for our students and

support the University's vision of quality education in an ever changing and dynamic post COVID world.

Keywords: Activity Theory, ICT, COVID-19, higher education

Biographical notes:

Dr Leena Kloppers is a Senior Lecturer in the Department of Technical and Vocational Education and Training (DTVET) at the Namibia University of Science and Technology (NUST). Her area of research interest is in the use of ICT to support education.

Paper session 7: Dimensions of Learning in VET in working life

An Evaluation Concept for Learning Effects in an Augmented Reality-Supported Learning Environment

Silke Thiem*

RWTH Aachen University
Institute of Industrial Engineering and Ergonomics
Eilfschornsteinstraße 18, 52062, Aachen, Germany
E-mail: s.thiem@iaw.rwth-aachen.de

Marvin Goppold

RWTH Aachen University
Institute of Industrial Engineering and Ergonomics
Eilfschornsteinstraße 18, 52062, Aachen, Germany
E-mail: m.goppold@iaw.rwth-aachen.de

Mattia Lisa Müller

RWTH Aachen University
Institute of Industrial Engineering and Ergonomics
Eilfschornsteinstraße 18, 52062, Aachen, Germany
E-mail: m.müller@iaw.rwth-aachen.de

Martin Frenz

RWTH Aachen University
Institute of Industrial Engineering and Ergonomics
Eilfschornsteinstraße 18, 52062, Aachen, Germany
E-mail: m.frenz@iaw.rwth-aachen.de

Verena Nitsch

RWTH Aachen University
Institute of Industrial Engineering and Ergonomics
Eilfschornsteinstraße 18, 52062, Aachen, Germany
E-mail: v.nitsch@iaw.rwth-aachen.de

* Corresponding author

Abstract: Augmented reality (AR) offers innovative options to design work-based learning environments in TVET. AR-Learning media enable to visualize e.g. error consequences in order to learn from them. Despite theoretical discussions, there is a gap in empirical investigations on learning effects of work actions in TVET.

This contribution describes a concept for evaluating learning effects of AR-visualized error consequences triggered by work action. The underlying work actions situate in an equipment

process of a CNC lathe. The learning goal consists of understanding the relations of situation constraints, performed action, positive and negative resulting consequences and cause of defect. In a subject-between design this concept aims to find out how instructions in AR-learning systems simulating actions can be designed to achieve this learning goal.

Keywords:

Vocational education and training, work-based learning, learning from errors, learning effect, augmented reality

Biographical notes:

Silke Thiem, M. Ed. is a research associate at the Institute of Industrial Engineering and Ergonomics at RWTH Aachen University and works in the TVET department.

Marvin Goppold, M. Sc. is a research associate at the Institute of Industrial Engineering and Ergonomics at RWTH Aachen University and works in the TVET department.

Mattia Müller, M.A. is a research associate at the Institute of Industrial Engineering and Ergonomics at RWTH Aachen University and works in the TVET department.

Martin Frenz is a professor at the Institut of Industrial Engineering and Ergonomis at RWTH Aachen University and is head of the TVET department.

Verena Nitsch, M.Sc. is a full professor and Director of the Institut of Industrial Engineering and Ergonomis at RWTH Aachen University.

VET and Lifelong Learning: The Twofold Nature of Post-World War II Industrial Documentary Film in Italy

Anselmo R. Paolone

University of Udine

Department DILL (Lingue, Letterature, Formazione e Società)

3, Via P. Margreth, 33100 Udine, Italy

E-mail: anselmo.paolone@uniud.it

Abstract: In the 50s, 60s and 70s, documentary film, thanks to its “universal” communicative power, proved to be particularly suitable for modernising millions of Italians, in an age of rapid economic transformation.

Starting in the 1950s (and before the birth of television in Italy) the format of the “industrial” documentary film developed into thematic series, called “work grammars” (grammatiche del lavoro). Over the years (and into the age of public television) they underwent an evolution, turning from filmed “handbooks” for VET, into a more versatile medium, able to speak to different audiences: as usual, to VET pupils, but also to a more general audience of citizens, which thus received new knowledge on various topics, aimed at improving their participation in contemporary life.

The presentation is based on three case studies of “work grammars”, which show aspects of such evolutionary trend.

Keywords: Industrial documentary film, audiovisual for VET, post-World War II Italy, “work grammars” film format, audiovisual language analysis.

Biographical notes:

Anselmo R. Paolone, Ph.D. (EUI), is an associate professor of Education at the Department of Languages, Literature, Education and Society, at the University of Udine, Italy. His research interests focus on comparative education, ethnography of education, music and education, narrative forms and education. He has worked as screenwriter, specialised in educational and industrial documentary films. Some of his publications: D'Agostini, M., Paolone, A.R., *Filmati per Formare*, Milano, Mimesis, 2018; Paolone, A.R., "Empires, Rituals, Ceremonial Pedagogy, Old and New", *Revista Española de Educación Comparada*, 31/2018.

**Factors related to recognition as an expert and congruence with organizational goals:
Empirical findings from Estonia, Finland and Italy****Petri Nokelainen***

University of Tampere
Faculty of Education and Culture
Åkerlundinkatu 5, 33100, Tampere, Finland
E-mail: petri.nokelainen@tuni.fi

Milla Räisänen

University of Helsinki
Faculty of Educational Sciences
Haartmaninkatu 3, 00014, Helsinki, Finland
E-mail: milla.raisanen@helsinki.fi

Angelo Riviezzo

University of Sannio
Department of Law, Economics, Management and Quantitative Methods
Via delle Puglie 82, 82100, Benevento, Italy
E-mail: angelo.riviezzo@unisannio.it

Gilda Antonelli

University of Sannio
Department of Law, Economics, Management and Quantitative Methods
Via delle Puglie 82, 82100, Benevento, Italy
E-mail: gilda.antonelli@unisannio.it

* Corresponding author

Abstract: This study investigated technical area employees' experiences of factors related to recognition of expertise and congruence with organizational goals. Cross-sectional data was collected with an online survey in 2020-2021. The sample consists of 486 employees (225 females, 46.3%) from three countries: Estonia ($n = 188$, 38.7%), Finland ($n = 123$, 25.3%), and Italy ($n = 175$, 36.0%). Participants responded to "Expansiveness of the Workplace as a Learning Environment Scale" (WLES) by James and Holmes (2012) in 2020-2021. This study used four of the seven WLES factors (measured by 12 items): Challenging and developing work tasks ($\alpha = 0.85$), Resources to help learning ($\alpha = 0.71$), Recognition as an

expert and learner ($a = 0.74$), and Congruence with organizational goals ($a = 0.70$). Results of structural equation modeling showed that both resources to learning and challenging and developing work tasks were statistically significantly positively related to the recognition as expert/learner and congruence with organizational goals, explaining approximately 60% of their variance.

Keywords: workplace learning, recognition, congruence, cross-cultural, survey

Biographical notes:

Dr Petri Nokelainen is Professor at the Faculty of Education and Culture, Tampere University, Finland. His research interests focus on workplace learning, higher engineering education and applied statistical modeling.

Dr Milla Räisänen is University Lecturer at the Faculty of Educational Sciences, University of Helsinki, Finland. Her research interests involve student learning at university, for example self- and co-regulation of learning, student well-being and workplace learning.

Dr Angelo Riviezzo is Associate Professor at the Department of Law, Economics, Management and Quantitative Methods, University of Sannio, Italy. His research interests focus on competitive strategies, with particular focus on SMEs, and entrepreneurship, with particular focus on corporate and academic entrepreneurship.

Dr Gilda Antonelli is Professor at the Department of Law, Economics, Management and Quantitative Methods, University of Sannio, Italy. Her research interests involve innovation at different organizational levels (individual, team, organization, and network), organizational identity and entrepreneurial process.

Paper Session 8: Higher Vocational Education and Critical Thinking

Higher non-academic technical education in Italy: ITS Academies

Francesco Magni*

University of Bergamo
Department of Human and Social Sciences
piazzale S. Agostino 2, 24129 Bergamo, Italy
E-mail: francesco.magni@unibg.it

Virginia Capriotti

University of Bergamo
Department of Human and Social Sciences
Ph.D. Student in Human Sciences and Welfare Innovation
E-mail: virginia.capriotti@unibg.it

* Corresponding author: francesco.magni@unibg.it

Abstract: Is it possible to successfully combine theory and practice in higher education? Can a parallel system of non-academic tertiary education be established alongside the traditional university system?

These are some of the challenges that face the Italian ITS (*Istituti Tecnici Superiori* - Higher Technical Institutes), which were established in 2010 and represent the Italian system's pathway for non-academic Higher Vocational Education and Training (VET). ITS courses, based on the pedagogical principle of work-based learning, provide an innovative experience of higher education that combines theory and practice in a complete development of the person, leading to excellent employment prospects.

The aim of this paper is to present Italy's higher non-academic technical education system, starting from a pedagogical rediscovery of the educational value of work and including an analysis of the ITS Academy system, which has recently been reformed and relaunched.

Keywords: Vocational Education and Training; Non-Academic Higher Education; work-based learning; ITS Academy; Italy.

Biographical notes:

Francesco Magni is an Assistant Professor in the Department of Human and Social Sciences at the University of Bergamo, Italy. In 2019 he was a visiting scholar at the Institute for Education Policy at the Johns Hopkins University, School of Education. His research interests focus on work-based learning, teacher education, education policies, higher education and comparative education.

Virginia Capirotti is a Ph.D. Student in Human Sciences and Welfare Innovation at the Department of Human and Social Sciences, University of Bergamo.

Bridging Troubled Waters – Critical Thinking and Vocational Bildung among Master Students

Hedvig Skonhoft Johannesen

OsloMet – Oslo Metropolitan University
Department of Vocational teacher Education
P.o. box 4, St. Olavs plass, 0130 Oslo, Norway
E-mail: hjohanne@oslomet.no

Abstract: The paper explores adult master students with vocational background, in their negotiations in appropriating university cultural codes when starting studies at master's level. Their expression of critical thinking is explored in and through their bartering recognition of their prior learning and training as skilled craftsmen and workers. The paper aims to answer the following research question: *How do adult master students develop critical thinking and expansive lifelong learning through thesis group work and team collaboration at the university?*

The data consists of a small-scale qualitative study of pedagogical work with thesis groups consisting of adult master's students with vocational and professional backgrounds. The concept of critical thinking in expansive lifelong learning is unpacked and discussed through examining the multiple meanings of learning contexts and knowledge cultures. Further in exploring how adult master students explore expansive lifelong learning through thesis group work at the university. A twofold approach of how becoming and learning is more expansive for these students with vocational background is developed. The discussion concerns how transformative learning and identity work could foster critical thinking and expansive lifelong learning and contribute to pedagogical and organizational learning for the university, bridging vocational and academic Bildung.

Keywords: Vocational knowledge cultures, critical thinking, expansive lifelong learning, master studies thesis groups

Biographical notes:

Hedvig Skonhoft Johannesen is an associate professor, PhD, at the Department of Vocational Teacher Education at OsloMet – Oslo Metropolitan University, Norway. Her research interests include vocational education and training (VET), sociology of knowledge and lifelong learning.

Top Dead centre: The Transformation of a Lexical Item into Practical Work in Bilingual Vocational Education**Janne Kontio**

Stockholm University
Dept. of education
106 91 Stockholm
Janne.kontio@edu.su.se

Abstract: The present study focuses on second language use as communicative strategies in the language learning environment of an English-medium content and language integrated learning (CLIL) workshop at an auto mechanics class in a Swedish upper secondary school. Data are drawn from video-ethnographic work during two years in a Vehicle engineering program taught in and through a foreign language; English. The settings of Swedish schools of auto mechanics have recently been defined in various studies as a very rich soil for researchers to dig deeper into issues of language, learning and the productions of identities due to the very rapid changes undergone by the program in the last decade (cf. Nehls, 2003; Rosvall, 2011). Traditionally the students of auto mechanics in Sweden have leaned heavily on very normative masculine understandings of what learning in school in general is and specifically manifested in a disinterest in second language learning (Beach et. al., 1999). These former expectations of and among students of auto mechanics have been questioned lately by findings in recent research (Korp, 2011; Rosvall, 2011). The analyses concern how and in what ways a certain second language lexical is transformed from teacher-impelled learnables, into the use of complex understandings and as actual professional practice, and how this can be seen to play an important role in building an English-speaking classroom community of becoming professionals of bilingual auto mechanics. A linguistic ethnographic approach (Rampton, 2007; 2011) is taken in order to explore how teachers' and students' second language teaching and learning activities are organized to invoke language ideologies. It is found that teachers introduce the lexical item as a way of co-constructing shifts between different second language registers linked to classroom language ideologies. It is here argued that engaging in these lexical learning trajectories should be seen as conditional for language learning and peer group participation at the English medium instruction Vehicle programme.

The study also demonstrates that second language learning in vocational CLIL classrooms is orderly, it is related to the evolution of communicative strategies, and it is in accordance with and reproduces local language norms, often made explicit by humorous interaction.

Key words: Ethics, Sustainability, Competences, Pedagogy

Biographical notes:

Janne Kontio is Doctor of Philosophy (PhD) in education, currently working as a senior lecturer at the department of Education at Stockholm University. He conducts empirical research in the field of education, with a special interest in the research areas of multilingualism, gender and embodiment as situated interactional practices.

Paper Session 9: Professionalism of Vocational School Teachers

Professionalisation of Prospective Vocational School Teachers in the TUB-Teaching 2.0 Project at the Technical University of Berlin

Wilko Reichwein

Technical University of Berlin
Institute for Vocational Education and Work Studies
Marchstr. 23, 10587 Berlin, Germany
E-mail: w.reichwein@tu-berlin.de

Manuela Weber

Technical University of Berlin
Institute for Vocational Education and Work Studies
Marchstr. 23, 10587 Berlin, Germany
E-mail: mauela.weber@tu-berlin.de

Abstract: The project TUB Teaching 2.0 (07/2019 - 12/2023) deals with the recruitment and professionalisation of student teachers in the study of work-based education and in the vocational teacher training programme in the technical subjects of electrical engineering, metal engineering, media engineering, automotive engineering and information technology.

In the first area of work, the focus is on recruiting student teachers in order to counteract the current shortage of well-trained teachers, especially in the area of vocational education and technical subjects. This should be done, for example, by establishing and expanding cooperation at (inter)national level in order to increase the attractiveness of teacher training programmes through mobility, interculturality and diversity of content.

The second area of work focuses on the professionalisation of future teachers. In vocational education, the focus is on the development of practice-oriented and differentiated learning and work tasks as a basis for adaptive teaching for the mechatronic and media technology professions. Within the framework of so-called cooperation labs (Ko-Labs), job-related learning and work tasks are developed with the participation of practice partners, which include current cross-sectional topics such as inclusion, diagnostics, language education, sustainability and digitalisation. The effectiveness of the measures to increase competence in the development of tasks for students is being empirically examined.

Keywords: innovative teaching practise, teacher training, competence development, vocational learning and work tasks

Biographical notes:

Prof. Dr. Wilko Reichwein is a visiting professor at the Institute for Vocational Education and Work Studies at the Technical University of Berlin. His main areas of research are Vocational education and training for sustainable development, digitalisation and its impact on VET, didactic and methodological innovations in higher education teaching and networking of subject didactics and related science discipline in teacher education.

Manuela Weber (MA) is a research assistant at the Institute for Vocational Education and Work Studies at the Technical University of Berlin. Her central tasks in the TUB Teaching 2.0 project are the development and implementation of the cooperation labs.

Perceptions of Quality and the Shaping or Misshaping of Vocational Education: The Case of T Level Qualifications in England

Kevin Orr*

University of Huddersfield
School of Education and Professional Development
Queensgate
Huddersfield
HD1 3DH- UK
E-mail: k.orr@hud.ac.uk

Rachel Terry

University of Huddersfield
School of Education and Professional Development
Queensgate
Huddersfield
HD1 3DH- UK
E-mail: R.Terry@hud.ac.uk

* Corresponding author

Abstract: T level technical qualifications for 16-19 year-old students (ISCED level 3) were introduced in England in 2020. Ten T levels are currently available and more are planned, each one corresponding to a specific occupational area. The claim that T levels are high quality is central to their introduction and politicians have repeatedly described them as “gold standard”. That claim of quality is associated with T levels being developed “in collaboration with employers and businesses”; and quality is also linked to the form of their final assessment. Significantly, the quality of T levels is also associated with their stated equivalence to A levels, which are long established academic qualifications. This paper draws on interviews with T level teachers to examine these perceptions of quality and how they have influenced the design and delivery of T levels, leading to some divergence from their technical focus.

Keywords: qualifications; assessment; quality; curriculum design

Biographical notes:

Kevin Orr is Associate Dean and Professor of Work and Learning in the School of Education and Professional Development at the University of Huddersfield in England. His research focuses on policy and pedagogy in technical and vocational education and training. Between 2017 and 2021 he was editor of the *Journal of Vocational Education and Training* and he recently co-edited the book *Equity and Access to High Skills through Higher Vocational Education*, published by Palgrave Macmillan in 2022.

Dr Rachel Terry is a Senior Lecturer in the School of Education and Professional Development at the University of Huddersfield in England and she is a regional convenor of the Learning and Skills Research Network. Her research has focused on the professional learning of teachers in further education colleges and she has recently been co-investigator on a national study of the perceptions of technical teachers in England.

Observe-Ask-Analyze. TAG-MA, A New Condition-Related Job Analysis Method to Describe the Work of VET Teachers

Lea Besser*

Martin-Luther-Universität Halle-Wittenberg
Institut für Psychologie
06099 Halle (Saale)
E-Mail: lea.besser@psych.uni-halle.de

Franz Kaiser

University of Rostock
Institute for Vocational education
August-Bebel-Straße 28, 18055, Rostock, Germany
E-mail: franz.kaiser@uni-rostock.de

Anne Traum

University of Rostock
Institute for Vocational education
August-Bebel-Straße 28, 18055, Rostock, Germany
E-mail: anne.traum@uni-rostock.de

Renate Rau

Martin-Luther-Universität Halle-Wittenberg
Institut für Psychologie
06099 Halle (Saale)
E-Mail: renate.rau@psych.uni-halle.de

* Corresponding author

Abstract: Vocational education and training (VET) have been suffering from a shortage of teachers (Kalisch & Kaiser 2019; OECD 2021). The question arises how the qualification to become a VET teacher and the working conditions as well as work attractiveness of VET teachers can be improved. 21 teachers were observed and interviewed in a structured manner on the basis of content-based regular scales in a research-project founded by the national ministry in Germany in Rostock. The applied survey instrument TAG-MA by Rau, Schweden, Hoppe und Hacker (2021) is based on the action regulation theory. Different work characteristics, such as sequential completeness, degrees of freedom and the level of cognitive requirements, are assessed. The aim of the analysis is to derive redesign proposals for working conditions and qualification opportunities for VET teachers. This paper will report on the procedure, the theoretical background and the results of the work analysis.

Keywords: Vocational school teachers, objectively condition-related procedure, workplace analyzes, activity theory

Biographical notes:

Lea Besser is a doctoral student of Prof. Dr. Renate Rau (Work and Organizational Psychology at Martin-Luther-Universität Halle-Wittenberg, Germany). She holds a master degree in psychology. Her main research focus is the derivation of competencies and competence profiles based on condition-related work analyses.

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 occupational

research, curricula and training regulations development, VET teachers, international research in VET and critical theory of 'Bildung'

Dr. Anne Traum is a psychologist, specialised in work and personality psychology and research assistant at the University of Rostock, Germany, since 2020 at the Institute for Vocational Education. Her current interests are improving the quality of training for vocational education and training (VET) teachers, objective work analyses and educational implications of Personality-System-Interaction (PSI)-Theory.

Dr. Renate Rau is full professor at the Institute for Psychology, Unit Work and Organizational Psychology at Martin-Luther-Universität Halle-Wittenberg, Germany since 2011. Her research interests focus occupational health psychology, work design and developing methods for job analysis.

Paper Session 10: Connection with School and Working Life

Young People in Dual Vocational Training: Towards a Connection between the Education System and the Company to Improve Socio-Occupational Integration

Magdalena Jiménez Ramírez*

Department of Pedagogy
Campus Universitario de Cartuja s/n
18071 Granada, Spain
E-mail: madji@ugr.es

Miguel A. Pereyra

University of Granada
Department of Pedagogy
Fac. de Ciencias de la Educación. Campus de Cartuja s/n, 18011, Granada, Spain
E-mail: mpereyra@ugr.es

* Corresponding author

Abstract: Dual Vocational Training, being a modality that favours cooperation between the labour and education sectors, contributes to the acquisition of knowledge and work skills that facilitates a greater possibility of being hired at the end of the training. Related to this, we present an investigation in which we analyse the accounts of interviews conducted with the actors involved in the implementation of VET in Andalusia in the Higher Vocational Training Cycle of Early Childhood Education. Preliminary results indicate that the development of this policy has a positive impact on the improvement of youth employability by enabling in-company training in which professional competences are demonstrated, combining practical training with the learning of theoretical knowledge, and where work tutors should promote the training capacity in the company in order to prevent VET from being considered exclusively as work experience.

Keywords: Dual Vocational Training, young people, educational policies, labour market insertion, early childhood education.

Biographical notes:

Magdalena Jiménez-Ramírez is tenure Associate Professor in the field of comparative curriculum policies in early childhood education at the University of Granada. Her research concerns young people and their vulnerable transitions, the analysis of educational policies related to childhood education, young people at risk of vulnerability and social exclusion, and dual vocational training.

Miguel A. Pereyra is Emeritus Professor of Comparative Education at the University of Granada and former President of CESE (Comparative Education Society in Europe). Trained both as an educationist and an historian, his research and publications are focuses on comparative and cultural history of education, and educational reforms and educational policies.

The Role of Tripartite Conversation in the Professional Development of Vocational Student Teacher - Meta-Reflective Conversations with Student Teachers and Supervisors

Petros Gougoulakis*

Stockholm University
Department of Education
E-mail: petros.gougoulakis@edu.su.se

Jan Pettersson

Stockholm University
Department of Education
E-mail: jan.pettersson@edu.su.se

* Corresponding author

Abstract: Vocational teacher candidates in Sweden, spend an essential part of their regular pre-service education program, in one or more vocational schools and take an active part in their activities under the supervision of a local teacher. VFU, as this teaching placement is called, is considered a Work Integrated Learning where science-based theoretical knowledge encounters proven experience in the school field. Throughout the VFU, tripartite conversations are held between the candidate, the supervisor and a teacher educator. The aim of this paper is to present the results of study about these conversations based on interviews conducted with supervisors and their former candidates, who are now working as teachers themselves. The interviews have the character of meta-conversations, and focus on the reflections of the graduate teacher candidates and their supervisors, on the structure, content, implementation and insights gained of the tripartite conversations that they have participated in, during the school practicum. The study also intends to shed light on the VFU supervisors' views on their own role in teacher education and, in particular, how they perceive the cooperation with the vocational teacher programme from a learning/development perspective. Tripartite conversations as part and parcel of prospective teachers' training, will also be problematised as an assessment basis of the candidates' teaching abilities and professional development.

Keywords: vocational teachers in-service training, VFU/Work Integrated Learning/practicum, tripartite conversations, teacher professional development

Biographical notes:

Petros Gougoulakis, is a Professor of Education at the Department of Education, Stockholm University. His research interests deal with popular adult education, educators' pedagogical

and didactical competencies, and VET in relation to prevailing discourses of lifelong learning.

Jan Pettersson works as a university lecturer at the Department of Education at Stockholm University. He teaches at the Vocational Teacher Education Program in courses like Assessment and grading in vocational subjects, Didactic in vocational education and Theories of Learning and Identity Formation in Vocational Education. Jan has a background as a vocational teacher in carpentry and construction

Inclusion in Workplace Learning: Exploring Gaps and Inconsistencies between Policy Making and Practical Implementation

Manos Pavlakis

Stockholm University

Department of Education

E-mail: manos.pavlakis@edu.su.se

Abstract: Inclusion in workplace learning has been challenged during the last couple of years, as one of the consequences of the pandemic. A recent systematic review revealed certain factors, that play a significant role in cultivating an inclusive learning environment in the workplace: the increasing use of online education, exploitation of different learning methods, the role of leadership, and increase of diversity practices (Pavlakis, 2021). The purpose of this paper is to further examine the issue of inclusion in workplace learning taking into consideration all new developments in the field. Research will follow a twofold direction: on one hand, texts, recommendations and directives from official institutions in European and international level will be crosschecked in relation to the abovementioned factors that affect inclusion in workplace learning. Simultaneously, data from interviews are expected to shed some light in specific issues that need more attention. The research aims to bring to the fore the extent to which policies designed and proposed at high level are finally successfully implemented or not, depending on particular circumstances and specific constraints.

Keywords: Workplace learning, inclusion, policy making, VET.

Biographical notes

Manos Pavlakis is Lecturer of Adult Learning and Leadership at Frederick University and postdoc researcher at the Department of Education at Stockholm University. His research interests focus on vocational training, work-based learning, teachers' training and soft skills development. He has been involved in several European and international projects related to non-formal and informal learning and he authored the educational material for the international e-learning project YouReCa, which was nominated the UNESCO youth label of quality and excellence in 2013.

Thursday, My 12th

KEYNOTE 2

Respectable Hairdressers – Femininity and (Vocational) Identity among Girls in Vocational Education and Training for Hairdressers

Eva Klope

Linnaeus University

Department of Education and Teachers' Practice

SE- 391 82 Kalmar, Sweden

E-mail: eva.klope@lnu.se

Abstract: The aim of the dissertation presentation here is to contribute knowledge on how adolescent girls in VET for hairdressers negotiate and perform (vocational) identities from a class- and gender perspective with special focus on femininity. This is done through ethnographical fieldwork. Theoretically the study is inspired by feminist poststructuralist theory together with theory of how working-class women act to become respectable.

The main results show that the hairdresser student is positioned as a female entrepreneur, that is constructed through two different discourses. One depicts the vocation as a glamorous profession to love. The other as hard work, low wages, and a craft that requires many hours of education.

One conclusion of the thesis is that traditionally feminine coded performances, such as caring, being nice, and doing good is reshaped in a neoliberal time where notions of a competitive, strong, and self-governing girl is the one that has become the ideal hairdresser. The position of a self-governing girl neglects issues of class and gender, since discourses of Girl Power position girls in a way that the individual subject owns their success, and that we are living in an equal society.

Key words: Class, Ethnography, Femininity, Gender, Hairdressers, Vocational education and training (VET)

Biographical notes:

Dr. Eva Klope is a senior lecturer in pedagogy with a focus on vocational education and has a background as a hairdresser and vocational teacher in the upper secondary school's craft program. Her research interests concern identity creation, gender, professions and professionalism. In the dissertation, which is an ethnographic study, she was interested in how students in the craft program negotiate and stage identities in relation to the hairdressing profession and hairdressing education with a special focus on the feminine.

Paper Session11: VET Engineering and VET Teacher Education

The overview of TVET-engineering in Malaysia

Nurul Eizzaty Sohimi

Haryanti Mohd Affandi

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

Hassan Basri

Mohd Firdaus Mustaffa Kamal

Department of Engineering Technology
Faculty of Technical and Vocational,
Universiti Pendidikan Sultan idris
E-mail : firdaus.mk@upsi.edu.my

Abstract: Career exploration is a very complex process and employee will experience stress, burnout, and unhappiness while on duty if they do not have sufficient information during the career exploration stage. As a result, the goal of this study was to explore the TVET-Engineering teaching career choice in Malaysia, which could be used as a guideline for career growth in the profession of vocational teaching and as a reference for acquiring excellent vocational instructors. This study adapted and modified two theories: Super Career Development Theory (1952) and O'Neil et al.'s Vocational Choice Theory (1980). This research employs survey design methodology that involves the distribution of online survey to the Excellent Vocational College teachers (VCET). The survey contains 133 factor items such as family influence, social, cultural, individual, socioeconomic, situational and spiritual factors. Purposive sampling was chosen in this study because it concentrates on the super-population, which is the VCET. The online survey received 20 responses from VCET. The study's findings were based on the Rasch model technique. This study determined three career choice exploration levels covers secondary school, university, and graduate level. This model is different from other models because of the presence of the spiritual factor as one of the primary elements, which is not found in any other models. Furthermore, the spiritual element did not have a place in previous research as most research focuses on person-environment fit, including skill, ability, personality, career interest, integrity value, and emotional intelligence.

Keywords: career exploration, career choice, vocational choice

Biographical notes:

Assoc. Prof Ts Dr Haryanti Mohd Affandi is a senior lecturer at the Department of Engineering Education, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia. Her research interests focus on competency development, measurement and evaluation, and construction management. Her research has been established in the scope of TVET at the national and international levels.

The Self-Efficacy of Vocational Education Teachers

Elena Quintana-Murci*

University of the Balearic Island
Department of Applied Pedagogy and Educational Psychology
Valldemossa Rd, km 7.5, 07122, Palma, Spain
E-mail:elena.quintana@uib.es

Carme Pinya-Medina

University of the Balearic Island
Department of Applied Pedagogy and Educational Psychology
Valldemossa Rd, km 7.5, 07122, Palma, Spain
E-mail:carme.pinya@uib.es

Olaya Álvarez García

University of the Balearic Island
Department of Applied Pedagogy and Educational Psychology
Valldemossa Rd, km 7.5, 07122, Palma, Spain
E-mail:olaya.alvarez@uib.es

Arturo Garcia de Olalla Gutierrez

University of the Balearic Island
Department of Applied Pedagogy and Educational Psychology
Valldemossa Rd, km 7.5, 07122, Palma, Spain
E-mail:a.garcia-de-olalla@uib.cat

Maria Tugores-Ques

University of the Balearic Island
Department of Applied Pedagogy and Educational Psychology
Valldemossa Rd, km 7.5, 07122, Palma, Spain
E-mail:maria.tugores@uib.es

Miquel F. Oliver-Trobat

University of the Balearic Island
Department of Applied Pedagogy and Educational Psychology
Valldemossa Rd, km 7.5, 07122, Palma, Spain
E-mail:m.oliver@uib.es

Francesca Salvà-Mut

University of the Balearic Island
Department of Applied Pedagogy and Educational Psychology
Valldemossa Rd, km 7.5, 07122, Palma, Spain
E-mail: f.salva@uib.es

* Corresponding author

Abstract: Spain is one of the developed countries with the highest rates of Early Leaving from Education and Training, a low participation rates in vocational education and training (VET) and a high dropout rate in these studies (Cerdà-Navarro, 2019; Salvà-Mut, 2018; Salvà-Mut et al., 2020). In this context, we have studied which elements of teaching practice can influence on dropout prevention from the Self-determination theory (Ryan and Deci, 2017). We have analysed the perception of VET teachers in terms of their professional self-efficacy and its relationship with school performance. We administered the Teachers Self Efficacy Scale (Tschannen-Moran & Woolfolk, 2001) to 287 teachers analysing the results according to the years of teaching experience and the VET level they teach. Conclusions showed nuances

according to the level of teaching, with years of teaching experience being a conditioning factor in the feeling of self-efficacy.

This work is part of the R&D project PID2019-108342RB-I00, founded by the Ministry of Science and Innovation, Government of Spain.

Keywords: Vocational Education and Training, Teacher's Self-Efficacy, Self-Determination theory, early leaving from VET (ELVET)

Biographical notes:

Dr. Elena Quintana-Murci is contract lecturer at the Department of Applied Pedagogy and Educational Psychology at the University of the Balearic Islands, Spain. Her research interests focus on early leaving from education and training, vocational education and training, youth transitions to adulthood and gender. She is the co-principal researcher in the Erasmus+ project Co-creation through Social Inclusion (2021-2024) and researcher in the R&D project Teaching practice and the prevention of early leaving from vocational education and training: empirical approach and intervention proposal (Ref. PID2019-108342RB-I00)

Dr Carme Pinya is contract lecturer in the Department of Applied Education and Educational Psychology at the University of the Balearic Islands. Co-principal researcher in the R&D project Teaching practice and the prevention of early leaving from vocational education and training: empirical approach and intervention proposal (Ref. PID2019-108342RB-I00) (2020-2023). Currently working on lines of research on teacher education, inclusive education, teaching methods, educational innovation and Success and dropout pathways in vocational education and training.

Dr. Olaya Álvarez García Bachelor in Environmental Sciences (2007), with specialized training in the field of education. European PhD in Environmental Education at the University of Balearic Islands (UIB). Her main aim of research is training teachers in Environmental Education. Also experience as a research technician in academic plagiarism. Her teaching experience is focused in Environmental Education in Pedagogies and Social Education degrees. Among her professional experience it is highlighted her work as environmental educator in City of Madrid and City of Palma and her experience as environmental technician at the university sustainability office.

Arturo Garcia de Olalla Gutierrez is a predoctoral researcher and a member of the Department of Applied Pedagogy and Educational Psychology at the University of the Balearic Islands, Spain, by the Ministry of Science and Innovation of the Government of Spain (PID2019-108342RB-I00). He is currently working on his doctoral thesis.

Dr Maria Tugores Ques is a professor in the Department of Applied Economics at the University of the Balearic Islands. She is a researcher specialising in issues related to the labour market, industrial economics and tourism economics. Participation in various competitive research projects. She is currently involved in the project funded by the Ministry of Science and Innovation on Teaching practice and the prevention of early leaving from vocational education and training: empirical approach and intervention proposal.

Dr Miquel F. Oliver-Trobat is Senior Lecturer in Teaching Education and Education Management at the University of the Balearic Islands (UIB). He is a member of the editorial board for various journals and a member of editorial committees for both national and international teaching-related works. He is part of The International Observatory on the

Teaching Profession's (Observatori Internacional de la Professi6 Docent) scientific committee. He is a member of the Education and Citizenship research group and researcher in the R&D project Teaching practice and the prevention of early leaving from vocational education and training: empirical approach and intervention proposal (Ref. PID2019-108342RB-I00).

Dr Francesca Salvà-Mut is full professor in the Department of Applied Pedagogy and Educational Psychology at the University of the Balearic Islands (UIB). She is an active member of the Education and Citizenship Research Group and the Director of the Laboratory for Research and Innovation in Vocational Training (LRIFP) at UIB. Co-principal researcher in the R&D project Teaching practice and the prevention of early leaving from vocational education and training: empirical approach and intervention proposal (Ref. PID2019-108342RB-I00) (2020-2023).

Investigating the Value of ITE Qualified VET Teachers in Australian Secondary Schools

Karen O'Reilly-Briggs*

International Specialised Skills Institute &
Box Hill Institute, Department of Learning and Teaching
465 Elgar Rd, Box Hill, Victoria, Australia
E-mail: K.OReilly-Briggs@boxhill.edu.au

Rochelle Fogelgarn

La Trobe University, School of Education
Kingsbury Drive, Bundoora, Victoria, Australia
E-mail: R.Fogelgarn@latrobe.edu.au

Jacolyn Weller

La Trobe University, School of Education
Kingsbury Drive, Bundoora, Victoria, Australia
E-mail: J.Weller@latrobe.edu.au

* Corresponding author

Abstract: In Australia, VET in Schools (VETiS) programs provide secondary school students with a course complementary to the academic curriculum. As VETiS programs intend to prepare students to enter the workforce, the quality and efficacy of teachers teaching VET curriculum is of critical importance to students' futures, and to the nation's post-pandemic economic recovery. In late 2020, the only undergraduate Initial Teacher Education (ITE) program designed to prepare industry experienced craftspeople and tech experts to become VET and Technologies school teachers closed despite widespread shortages of these teachers, and the OECD's calls to enhance access to ITE and pedagogical preparation of VET teachers. This situation has implications for the quality of VET and Technologies education and the safety of students in classrooms. This presentation will discuss the findings of research investigating the *value* that qualified ITE qualified VET and Technologies teachers bring to secondary schools in Victoria, Australia.

Keywords: Human capital, Teacher training, Vocational teachers, VET in schools, Vocational preparation.

Biographical notes:

Dr Karen O'Reilly-Briggs is an International Specialised Skills Institute Department of Education and Training Fellow, Academic at Box Hill Institute, and industry qualified metal engineering and pressure vessel welding tradesperson, Australia. Her research interests focus on VET, craft trades and apprenticeships, and the status of VET. Her Fellowship takes her to Europe where she hopes to learn about ITE programs available for craftspeople and technicians to become qualified VET teachers in the secondary teaching profession.

Paper Session 12: Symposium: Vocational School Teachers

Vocational School Teachers as Innovative Creators- Consequences for Their Professional Education

Franz Kaiser*

University of Rostock
Institute for Vocational education
August-Bebel-Straße 28, 18055, Rostock, Germany
E-mail: franz.kaiser@uni-rostock.de

Christof Nägele

University of Applied Sciences and Arts
School of Teacher Education
Hofackerstrasse 30, 4132, Muttenz, Switzerland
E-mail: christof.naegele@fhnw.ch

* Corresponding author

Abstract: VET teachers and their continuous professional development (VET TE) must take into account the many and very diverse challenges that current and future VET face. These are, for example, rapid technological changes, the demand to take on more and broader educational tasks and to adapt to new forms of work organisation (e.g., the flexibility of working hours, teleworking). VET teacher must establish innovative learning arrangements at schools, which incorporate digital learning tools, open new opportunities to foster individual learning processes and occupation-specific forms of learning. They must be able to analyse work processes to determine the competences required at the workplace. They initiate and sustain close relationships and co-operations with (regional) companies and within the schools. They support, advise and accompany an increasingly heterogeneous group of VET learners which asks for an educator's competences to guide other people. At the same time workers need to adhere to democratic and European values. To become critical citizens, VET teachers thus need to enable learners to raise their voice in democratic processes in the workplace, at school and beyond. The paper provides collected evidence for change in vocational teacher education from an ongoing development project in Europe.

Keywords: VET teacher, comparison study, current challenges, innovation

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 occupational research, curricula and training regulations development, VET teachers, international research in VET and critical theory of 'Bildung'

Dr. Christof Nägele is a senior lecturer and researcher at the University of Applied Sciences and Arts Northwestern Switzerland, School of Education. He is co-chair of the European researchers VETNET. His research interests are on VET, vocational choice, adjustment processes, social and group process in VET, transferable skills.

Integration of Disadvantaged into IVET

Fernando Marhuenda*

University of Valencia

Department of Didactics and School Organization

Fac. Filosofía y CC. de la Educación, Av. Blasco Ibáñez 30, 46010 Valencia, Spain

E-mail: Fernando.Marhuenda@uv.es

Melanie Hoppe

University of Rostock

Institute for Vocational Education

August-Bebel-Straße 28

18055 Rostock

E-mail: melanie.hoppe@uni-rostock.de

* Corresponding author

Abstract: Our contribution to the VetTeach symposium addresses the way in which the integration of people suffering disadvantage into initial vocational education and training (IVET) is handled in: Finland, Norway, Sweden, Germany, Switzerland and Spain. Often, disadvantage is understood as a matter of special education needs (SENs), but it can also be social exclusion. Several countries indicate a breach between compulsory secondary education and initial VET, from inclusive educational policies into segregated ones. It is common that country policies consider IVET as *the* choice given to people with SENs if they want to attend post-compulsory secondary education. The paper will describe what are the country policies, whether these are integrated or segregated, recognition of learning, as well as different pathways between vocational education and vocational training. The description of policies will be accompanied with number of students with disadvantage in compulsory education and IVET, as well as information on their trajectories if available by official statistics.

Keywords: Special Education Needs, Social Exclusion, Vocational Education and Training

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Biographical notes:

Dr Fernando Marhuenda is a full professor in the Department of Didactics and School Organization at the University of Valencia, Spain. His research interests focus on vocational training and social inclusion, workplace learning, and curriculum development in Third Sector Organisations. He coordinates a multidisciplinary research group Transicions (GIUV2013-093) cooperating with the Spanish Federation of Work Integration Enterprises and the Spanish Association of Second Chance Schools.

Dr. Melanie Hoppe is senior researcher and lecturer at the Institute for Vocational Education at Rostock University. Her research interests are teaching methodologies, disadvantaged in vocational education, and VET teacher professionalisation.

Teachers' role in guiding the vocational career of their students

Christof Nägele*

University of Applied Sciences and Arts
School of Education
Hofackerstrasse 30, 4132, Muttenz, Switzerland
christof.naegle@fhnw.ch

Barbara E. Stalder

Bern University of Teacher Education
Upper Secondary Education
Fabrikstrasse 8, 3012, Bern, Switzerland
barbara.stalder@phbern.ch

* Corresponding author

Abstract:

Students take career decisions on the lower and upper secondary levels that significantly impact their lives. Teachers are expected to guide their students in this process. Guiding a student in developing his or her career is a different task than teaching a subject matter. How can teachers be prepared to shift their mindset (i.e., from instructing to guiding) to become guides of their students? They are in a situation where they must ask questions without knowing the answer, the goal is defined by the students, and social and cultural aspects shape a student's career planning. We report on conceptual elements in developing a curriculum on teachers as career guides of their students. Empirical data stems from a project on digital support of students in their career choice process and interviews with vocational trainers and apprentices, expressing their expectations of what a teacher should do in guiding a student's career successfully.

Keywords:

Career choice, career guidance, vocational education and training

Biographical notes:

Dr Christof Nägele is a senior lecturer and researcher at the University of Applied Sciences and Arts Northwestern Switzerland, School of Education. He is co-chair of the European researchers VETNET. His research interests focus on VET, vocational choice, adjustment processes, social and group process in VET, transferable skills.

Dr Barbara E. Stalder is a full professor in educational and social science at the Institute of Upper Secondary Education at the Bern University of Teacher Education, Switzerland. He is co-chair of the European researchers VETNET. Her research interests focus on learning in school and the workplace, student engagement, and career development in VET.

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VETteacher Continuous Professional Development in Six European Countries – Results from the VETteach Project

Melanie Hoppe*

University of Rostock
Institute for Vocational education
August-Bebel-Straße 28, 18055, Rostock, Germany
E-mail: melanie.hoppe@uni-rostock.de

Stephanie Dahn

University of Rostock
Institute for Vocational education
August-Bebel-Straße 28, 18055, Rostock, Germany

Haege Nore

OsloMet
Department of Vocational Teacher Education
P.O. Box 4 St. Olavs plass, Oslo, Norway

Birger Brevik

OsloMet

Department of Vocational Teacher Education

P.O. Box 4 St. Olavs plass, Oslo, Norway

Per Andersson

Linköping University

Department of Behavioural Sciences and Learning, Linköping, Sweden

* Corresponding author

Abstract: The further training of teachers at vocational schools is a politically declared goal at the European level. The background to this is that professionally qualified teachers are regarded as innovation drivers in vocational education. Thereby, it is declared that the quality of vocational education strongly depends on the qualification of teachers both within their vocational field, teaching methods, technology and training adapted to different target groups. This paper addresses the implementation strategies, policy initiatives and different ways of looking at the continuous professional development of vocational teachers in six European countries: Germany, Spain, Sweden, Finland, Norway, and Switzerland. It becomes clear that the university education of prospective teachers and the school-based tasks of existing teachers shape the national understanding of continuous professional development. This also raises the question of the importance of the universities in the further professional qualification of vocational school teachers.

Keywords: Continuous Professional Development, Innovators, Vocational Education and Training, VET Teachers

Biographical notes:

Dr. Melanie Hoppe is a senior researcher at the Institute for Vocational Education at Rostock University. Her research interests are teaching methodologies, disadvantaged in vocational education, and VET teacher professionalization.

Stephanie Dahn is a research assistant at the Institute for Vocational Education at the University of Rostock, Germany. Her research interests are design of educational opportunities for vocational teachers and mentors and digital educational opportunities.

Haege Nore is a professor (em) at the Department of Vocational Teacher Education at OsloMet, Norway. Her research interests include workplace learning, e-postfolios, assessment in VET and RPL.

Birger Brevik is an associate professor at the Department of Vocational Teacher Education at OsloMet, Norway. His research interests are VET teacher education, technology and teaching

Per Andersson is a professor of Education at Linköping University, Sweden. His main research areas are validation/recognition of prior learning and the continuing professional development of teachers, and particularly vocational teachers.

Paper Session 13: VET Policy and VET Models

Between Technological Imperative and Material Culture: The *Chaîne Opératoire* of VET Policy in England

Bill Esmond

University of Derby
Institute of Education
Kedleston Road, Derby, DE22 1GB, UK
w.esmond@derby.ac.uk

Abstract: VET has become increasingly central to UK social and economic policies over the last 12 years, centred on the reform of apprenticeships and ‘technical education’ in England. Both policies, assigning greater importance to workplace learning including as routes into higher education, emphasise technological advances, much as international discourses reference a fourth industrial revolution (4IR). Yet they have also appealed to a discourse of ‘craft’ to validate vocational routes, recalling the earlier status of skilled work during the handicraft period. These apparently incongruous references to moral and material dimensions of skilled work, largely neglected by technological policy discourses, call our attention to cultural and societal contexts of these policies. This paper explores these contexts drawing on methods used to construct material cultures from the *chaîne opératoire* of historical artefacts. This *chaîne* leads us back to a dualisation of labour markets and social policies that is increasingly reshaping VET across developed countries.

Keywords: craft; apprenticeship; workplace learning; material culture; *chaîne opératoire*

Biographical notes:

Bill Esmond is an associate professor at the Institute of Education at the University of Derby, UK. His research interests focus on the boundaries between VET, higher education and learning at work. A recent monograph (with Liz Atkins) *Education Skills and Social Justice in a Polarising World* examined a recent stratification of VET in England, with parallels in other developed countries.

Training in a Dual Mode: Cooperation Structures and Procedures in Actors’ Networks in Mexico

Prof. Dr. Matthias Pilz

University of Cologne
Germany

Abstract: Training at the intermediate skill level is receiving increased attention worldwide (ILO, 2011). In Mexico, the importance has also been recognised and a Mexican dual education system (Modelo Mexicano de Formación Dual, MMFD) has been implemented by the national government in recent years. Consequently, successful cooperation between public and private actors is necessary so that practice-relevant skills can be taught (Billett & Seddon, 2004). Also German actors support the reform process of the Mexican vocational education system (BIBB, 2015), which is why not only regional or national, but also international partnerships are existing. Although in the international context, the challenges of cooperation, e.g. between companies and vocational education providers, are already mentioned, there are only very

limited research findings to indicate the necessary principles for cooperation in general (Callan & Ashworth, 2004) and in Mexico specifically (Pilz & Wiemann, 2020). Accordingly, our research question is: What principles are necessary for cooperation between different actors in Mexico?

The presented research is based on the larger study “DualReg: Locally rooted – worldwide linked up: Mexico – Success conditions for transfer of vocational education and training and dual practices” (funded by the German Federal Ministry of Education and Research) and includes a qualitative survey of expert interviews conducted locally and via video calls between 2020 and 2022. The interview partners can be assigned to different regional, national as well as international actor types: German/Austrian/Swiss organisations, Mexican national authorities, Mexican organisations, vocational education organisations and companies. All interview had been transcribed and the results explored by qualitative content analysis methods. The study shows that different principles are needed to ensure that cooperation does not come to an end. Furthermore, new insights can be gained, such as the importance of contracts between companies and VET organisations, as only on the basis of these contracts are learners insured.

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Biographical notes:

Prof. Dr. Matthias Pilz is a full professor of economics and business education. He is the director of the German Research Center for Comparative and Vocational Education and Training at the University of Cologne. His main research areas are: transitional research between education and employment systems, international Comparative (vocational) education research, individualisation and differentiation of educational pathways, development and evaluation of teaching units and teaching-learning arrangements in business teaching, school development and curriculum analysis

Meritocracy and VET

Vera Braun

University of Konstanz
Department of Economics
Chair of Business and Economics Education I
Fach 127
78457 Konstanz- Germany
E-mail: vera.braun@uni-konstanz.de

Abstract: The paper presents a dissertation project that investigated the relationship between meritocracy and vocational education. In many countries, it can be observed that vocational education and training is not held in high social esteem and that a vast majority of young people prefers to go on to higher education. What is conspicuous here is a pronounced orientation towards the meritocratic principle. In the study, an ideal type of relationship between meritocracy and vocational education and training was created, based on a synthesis of theoretical elaborations on performance, the merit principle, values and structures. According to the results, a meritocratic orientation acts as a catalyst for developments that contribute to the devaluation of VET and its degrees. This leads, among other things, to vocational education and training only insufficiently fulfilling its qualification function and the employment market complaining of a shortage of skilled workers with a simultaneous surplus of academics.

Keywords: Idealtyp, Meritocracy, Social Standing of Vocational Education and Training

Biographical notes:

Vera Braun is postdoc at the Chair of Business and Economics Education 1 (Prof. Deissinger) of the University of Konstanz in Germany. Between 2016 and 2018, she coordinated an Erasmus+ project aimed at promoting professional teacher education in Ukraine. She received her doctorate in May 2021. Her research interests are macro-perspective issues in vocational education and training research, international comparative vocational education and training research, especially the post-Soviet area, and the social significance and standing of vocational education and training.

Paper session 14: Internationalization of VET and migration

International Organisations and Policy-Making in VET Systems of Developing Countries

Oksana Melnyk*

University of Konstanz
Department of Economics
Universitätsstraße 10, 78457, Konstanz, Germany
E-mail: oksana.melnyk@uni-konstanz.de

Abstract: Vocational education and training (VET) is considered to retain cultural patterns of work, vocations and vocation acquisition of a country and, thus, to be more resistant to changes in comparison with higher or secondary education sectors (Deissinger, 2001; Gonon, 2010, 2016). One of the pillars of the stability of VET systems is actor constellations that are carriers of these cultural patterns (Zlatkin-Troitschanskaia, 2005). However, after the Second World

War and especially since the 60ties of the XX century the influence of international organisations (IOs) as a new actor in policy-making has started to be more obvious in matters of education, including VET (Heyneman & Lee, 2016). From the point of view of institutionalism, countries with strong educational traditions demonstrate certain intransigence about changes instigated by policies of the IOs. Countries with weaker educational traditions or in transition states show greater susceptibility to formally implement educational policies disseminated by IOs (Meyer & Rowan, 2012). This paper reviews the activities of international organisations in vocational education and discusses the questions of their influence on policy-making in this sphere with a special focus on developing countries.

Keywords: vocational education, policy-making, reforms, international organisation, educational aid

Biographical notes:

Oksana Melnyk is an academic staff member at the Chair of Business and Economics Education I at the Department of Economics of the University of Konstanz. She holds a degree of Candidate of Sciences (comparable to PhD) obtained at the Institute of Vocational Education of the National Academy of Educational Sciences of Ukraine. Her scientific interests include international and comparative education research, vocational teacher training in German-speaking countries, reform and development processes of VET systems in the post-soviet countries.

Dual VET in the EU Policy: the internationalization of the German model?

Miguel A. Pereyra-García Castro

University of Granada

Department of Pedagogy

Fac. de Ciencias de la Educación. Campus de Cartuja s/n, 18011, Granada, Spain

E-mail: mpereyra@ugr.es

Luis Martínez-Izquierdo*

University of Granada

Department of Pedagogy

Fac. de Ciencias de la Educación. Campus de Cartuja s/n, 18011, Granada, Spain

E-mail: luismartinez@ugr.es

Mónica Torres Sánchez

University of Malaga

Department of Theory and History of Education and Methods of Research and Diagnosis in Education

Fac. de Ciencias de la Educación. Universidad de Málaga. Campus de Teatinos s/n, 29071, Málaga

E-mail: motorres@uma.es

* Corresponding author

Abstract: Some European countries, including Spain, encouraged by the European Union, have undertaken the reform of their Vocational Training systems so as to promote dual apprenticeship. This research analyses EU documentation, consisting of documents related to the Copenhagen process and VET reform, such as communications, recommendations and declarations from different European bodies. This analysis will focus on EU proposals and recommendations on two areas of VET: the governance system and the training model which are the main characteristics of the German model of VET. The methodology consists of a

reflective thematic analysis, using NVIVO's qualitative data analysis computer software. This will advance the understanding of the process of internationalisation and attraction of the German dual VET model within the EU as a model of good practice.

Keywords: Vocational Education and Training, Dual apprenticeships, Transfer, Policy borrowing, Policy analysis

Bibliographical notes:

Miguel A. Pereyra is Emeritus Professor of Comparative Education at the University of Granada and former President of CESE (Comparative Education Society in Europe). Trained both as an educationist and an historian, his research and publications are focuses on comparative and cultural history of education, and educational reforms and educational policies.

Luis Martínez-Izquierdo is a PhD student, as a holder of a research fellowship of the Spanish programme for University Teacher Training (FPU) of the Ministry of Universities, in the Department of Pedagogy at the University of Granada, Spain. He holds a Degree with Honors in Early Childhood Education and a Master's Degree with Honors in Research and Innovation in Curriculum and Training. His research interests focus on Vocational Education and Training, comparative education and educational policy.

Mónica Torres is an associate professor of International and Comparative Education at the University of Malaga. She was "Visiting Scholar" at the University of Wisconsin-Madison (EEUU) sponsored by the "José Castillejo" Research Program of the Spanish Ministry of Education and Culture. She is the coordinator of the Master of the University of Granada on "Research and Innovation in Curriculum and Teacher Education". Her research interests focus on comparative education and educational reforms and educational policies.

Skills Supporting Social and Economic Inclusion of Young Migrants in England

Dr Andrea Laczik*

Edge Foundation
44 Whitfield Street
London, W1T 2RH
UK
alaczik@edge.co.uk

Dr Natasha Kersh

UCL Institute of Education
Education Practice and Society
20 Bedford Way
London, WC1H 0AL
UK
n.kersh@ucl.ac.uk

* Corresponding author

Abstract: The proposed paper focuses on young migrants in England and the way in which they find their place in society. According to Heath and Cheung (2007) migrants form a new layer of disadvantaged people in Western societies. Therefore it is vitally important to enhance their employability skills and in particular their English language skills. We aim to answer two questions: How do young migrants develop their skills to achieve economic and social inclusion in England? What supports young migrants' skills development in their new environments? We draw on two studies undertaken in England: 1) English for Speakers of Other Languages (ESOL) course for young migrants (Horizon 2020 project, EduMAP) and 2) Hungarian Migrants in the UK Labour Market (Laczik, 2014). We will discuss what economic and social inclusion look like for young migrants and the way in which employability skills and English language skills are considered as essential by the interviewed migrants to secure jobs and build social networks. In this paper we argue that these skills are considered to serve as stepping stones and may open up a range of opportunities for them. The paper aims to consider the wider issues related to the topic of social and economic inclusion of young migrants in England.

Keywords: migration, young adults, employability skills, English language skills

Biographical notes:

Dr Andrea Laczik is Head of Research at the Edge Foundation and an Honorary Research Fellow at the University of Oxford Department of Education. Andrea has over 20 years of research experience and worked for Oxford and Warwick universities before she moved to Edge. Her areas of research interests include TVET, apprenticeships, work-based learning, employability and skills development, youth transition, employer engagement and educational policy. She also has an interest in comparative and international education, in particular in the former East-European countries. She has widely published in these areas. Her current projects include [Young Lives, Young Futures](#) and [Degree Apprenticeships in England](#)

Dr Natasha Kersh is a Lecturer in Education and a Senior Fellow of the Higher Education Academy at the UCL Institute of Education (UK). Her research interests and publications relate to the study of VET, workplace learning and adult education in the UK and international contexts, and she has widely published in these areas. Natasha has extensive experience of working on and directing national and international projects such as EU-funded projects and UK-based funded initiatives.
<https://iris.ucl.ac.uk/iris/browse/profile?upi=NKERS50>

Paper session 15: Sustainable Development and Responsible Consumption

VET for Sustainable Development: A In-depth Review of the Scientific Literature.

Mónica Moso-Diez*

CaixaBank Dualiza

Centre for Knowledge and Innovation

Paseo de la Castellana, 189, 28.046 Madrid, Spain

E-mail: mmosod.dualiza@caixabank.com

Antonio Mondaca-Soto

CaixaBank Dualiza

Centre for Knowledge and Innovation

Paseo de la Castellana, 189, 28.046 Madrid, Spain

E-mail: amondacas.dualiza@caixabank.com

* Corresponding author

Abstract: The aim is to provide an in-depth review of the scientific literature on VET for Sustainable Development (SD). To this end, qualitative and quantitative studies will be analysed to provide a theoretical and empirical approach to sustainability in the field of VET. VET for SD seeks a new type of development, not based on growth, but on new forms of work because of new forms of production, consumption and relationship with the environment (Goldney et al., 2007). It is not only important to be aware of natural limitations but also to learn and experience sustainability by working with VET schools and companies in terms of sustainability (Growth et al., 2018). However, this approach is not only marginal but has been devalued after burning the term at the declarative level and making little progress at the curricular, operationalisation and organisational levels (Fien et al., 2009; Hemkes and Melzig, 2021).

Keywords: VET for Sustainable Development, Sustainability, Green Transition

Biographical notes:

Dr Monica Moso-Diez is the Head and Principal Investigator of the R&D unit of a private non-profit foundation, Spain. Her research interests focus on innovation in the VET system at both organisational and contextual (socio-economic and political) levels. Her main research projects are about: (1) Spanish regional VET systems in terms of smart specialization (RIS3), (2) VET system as an innovation ecosystem and sustainability; and (3) VET indicators (Spanish VET Observatory).

MSc. Antonio Mondaca-Soto is a Senior Researcher in the R&D unit of a private non-profit foundation, Spain. His research interests focus on quantitative methodologies and statistical analysis in the field of VET. His fields of interest are education, data and indicator visualization. His work currently focuses on Spanish VET Observatory.

Training of Future Professionals in Vocational Education for Responsible Consumption and Production**Tetiana Derkach**

Kyiv National University of Technologies and Design

Department of Professional Education in Technologies and Design

Nemyrovycha-Danchenka Street, 2, 01011 Kyiv, Ukraine

E-mail: derkach.tm@knutd.com.ua**Yana Shuhailo***

Kyiv National University of Technologies and Design

Department of Professional Education in Technologies and Design

Nemyrovycha-Danchenka Street, 2, 01011 Kyiv, Ukraine

E-mail: shugaylo.yv@knutd.edu.ua

* Corresponding author

Abstract. The garment industry is one of the biggest polluters in the world. Clothing quickly becomes textile waste because of the rapid change in fashion trends. Greenpeace says that 95% of clothing can be reused. Future professionals in vocational education minoring in garment technology study methods of optimising the materials use and reducing waste in new products manufacturing. However, training in textiles upcycling is essential to solving the problem of clothes that have been used and gone out of fashion. Appropriate competence has to be formed. Students need to know the benefits and risks of upcycling, and possible techniques which can be used for it. It is important to form a positive attitude toward upcycling. To realise these goals, students create upcycling projects while studying professional disciplines in KNUTD. A survey was conducted to understand the upcycling behaviour of KNUTD students. 93 students took part in it. The combination model of theory of interpersonal behaviour and theory of planned behavior was used. The results indicate a positive attitude towards upcycling practices. Half of the respondents engage in upcycling once a year, the other half every 3 months or more often. But undergraduate students are not aware of the benefits of upcycling. So, further work needs to be carried out so future vocational education professionals will consciously use environmental standards in their activity.

Keywords: vocational education, upcycling, behavior.

Biographical notes:

Prof. Dr. **Tetiana Derkach** is the head of the department of professional education in technologies and design at the Kyiv national university of technologies and design, Ukraine. Her main areas of research: the preferred learning styles of students, cognitive load, the effectiveness of e-learning resources, project-based learning, sustainable development, vocational education.

Yana Shuhailo is a PH.D. in pedagogy, as.prof. of the department of professional education in technologies and design at the Kyiv national university of technologies and design, Ukraine. Her main areas of research: vocational education, creativity development, media education, project-based learning.

Knowledge, subjective norm, attitudes, awareness and behaviour of Malaysian Vocational College Students towards Fashion Education Sustainability.

Arasinah Kamis*,
arasinah@ftv.upsi.edu.my

Sarimah Ab Bedor,
Rahimah Jamaluddin,
Faizal Amin NurYunus,
Windhihastuti,
Pedro Luis Yturria Motenegro

Abstract: In line with the needs of the current industry which requires employees in the field of Technical Vocational Education & Training (TVET) to be prepared in terms of knowledge regarding sustainability when stepping into the world of work afterwards and able to address challenges in relation to sustainability issues. Students' awareness should be consistently increased through the application of knowledge, attitudes and behaviors towards environmental

care. In addition, the influence of subjective norms from educators, administrators and peers can help to increase students' awareness on the practice of Fashion Education Sustainability (FES) so that environmental sustainability can be sustained for future generations. Furthermore, educators and administrators at Vocational College (VC) are also individuals who influence students on FES practices through sustainability activities.

This study is aimed to examine the factors that influence the practice of FES among Fashion Design students in Vocational College. The five independent variables in the study were knowledge, attitudes, subjective norm, awareness, and behavior. Meanwhile, the dependent variable is the practice of FES which consists of the factors of the use of environmentally friendly clothing and the factors of the construction strategy of sustainability education. Quantitative research design was using a cross-sectional strategy. A total of 330 Fashion Design students at Vocational College in Malaysia were selected using stratified and purposive sampling technique. The findings showed that there was a significant positive relationship between knowledge $\beta = 0.22$, $p = .001$, attitude = 0.18, $p = .007$, behavior $\beta = .47$, $p = .001$, subjective norm $\beta = .18$, $p = .004$ and awareness $\beta = .34$, $p = .001$ of FES practice. The implications of this study can contribute to the Technical and Vocational Education Division as a guidance in formulating curriculum content for Fashion Design programs and other TVET programs with the application of sustainability elements. It is hoped that students will be able to manage waste materials sustainably which consequently can help to reduce the risk of environmental pollution. Thus, when students' FES practices are expanded, it can indirectly help to reduce the risk of environmental pollution and subsequently it will help in realizing the Sustainable Development Goals (SDGs) by 2030.

Keywords Fashion education, Sustainable practice, Sustainable and fashion education, Fashion design

Biographical notes:

Associate Professor **Dr Arasinah Kamis** is a Lecturer in Faculty of Technical and Vocational, Sultan Idris Education University, Malaysia. Her areas of research interests and publications relate to the study of TVET, green skills, sustainability in teaching and learning and competency in fashion and cosmetology, and she has widely published in these areas. She is involved in a panel of curriculum evaluators, book and module evaluators, and judges of research seminar. She also have some experience on collaboration with international research that related with TVET research with Malaysian- Indonesian TVET Educators.

Sarimah Abu Bedor is an educator at the Vocational College Sultan Abdul Samad, Malaysia. She was graduated from Sultan Idris Education University, Malaysia in the Master Science Program (Technical and Vocational). She is passionate to improving the quality of sustainability in teaching and learning and the practice of sustainability in higher education. Sarimah's research interests in the sustainability of fashion education and sustainability practices in fashion education.

Dr Rahimah is a senior lecturer at the Department of Science and Technical Education, Faculty of Educational Studies, Universiti Putra Malaysia. Her research interests include TVET, teaching pedagogy, innovation in teaching and learning as well as entrepreneurship. She has high interest and is actively involved in carrying out activities in the form of industry and community networking. She is also involved in a panel of curriculum evaluators,

innovation competition juries, seminar, and convention evaluation panels, book and module evaluators, and judges of journals related to qualitative and quantitative research.

Dr Faizal Amin Nur Yunus is Head of Department, Department of Technical and Vocational Education, Faculty of Technical and Vocational Education, University Tun Hussein Onn Malaysia. His areas of research interest include Job and Career Development in TVET, Skill and Training in TVET, Employability, Vocational Pedagogy, and HVAC Technology System. He also act as Principle Researcher of HVAC Focus Group. He also have some experience on collaboration with national and international research that related with TVET research such as matching grants with Malaysian- Indonesian TVET Educators.

Dr. Widiastuti is a lecturer in the undergraduate Department of Clothing Technical Education and Department of the Magister of Home Economic Faculty of Engineering Universitas Negeri Yogyakarta (UNY). She is also a lecturer in the magister and Doctoral study program in Educational Research and Evaluation (PEP) Universitas Negeri Yogyakarta Indonesia. Her research experience and area of expertise to date are the evaluation of clothing and textile learning. She has been heavily involved in developing educational assessment instruments, HOTS-based AfL for fashion learning, competency assessment of fashion teachers, and assessments for case methods, and she has widely published in these areas. Currently, she is entrusted with being on the Quality Assurance Team for the UNY PEP Masters Study Program and the Secretary of the Center for Development and Testing Services for LPPM Universitas Negeri Yogyakarta.

<http://staffnew.uny.ac.id/staff/132256206>

Paper Session 16: Workshop- E-learning project in Malaysian TVET

The Development of Cybergogy, Peeragogy and Heutagogy Using Industry Case-Based

Haryanti Mohd Affandi

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

Abstract: INTENSE UKM, a part of a research consortium together with UUM and UTHM, takes the responsibility of employing digital learning for the TVET curriculum in Malaysia. The project conducted by INTENSE UKM carries four objectives which are (1) to identify a suitable alternative assessment in assessing the thinking and the inventive problem-solving skills (TRIZ), (2) to develop an alternative assessment to measure thinking skills and TRIZ, (3) to develop a scoring rubric for the formed alternative assessment and (4) to analyse the impact of the implementation of thinking skill and TRIZ through heutagogy, peeragogy, and cybergogy approach. Thus, DG-TIPS is developed as an outcome of this research. DG-TIPS refers to Digital Thinking and Inventive Problem-Solving Skills Assessment Through Gogies. It combines learning and assessment in a platform that covers thinking skills, TRIZ, alternative assessment, industry case-based, Augmented Reality and gogies (heutagogy, peeragogy, and cybergogy). This system is suggested to help the students apply thinking and inventive problem-solving skills in answering the industry case-based given during the

learning session. Through this platform, students can learn interestingly and go along with the syllabus. A pilot study on the industry case-based activities has been conducted with the Vocational College students in Malaysia, focusing on electrical, automotive, and environmental sustainability cases. There are two types of activities with the same industry case-based given, which are 1) without TRIZ and 2) with TRIZ. The case was presented in an animation video to ease the students in understanding the industry case-based that needs to be solved. A total of 47 responses for the sustainability case-based with TRIZ, 199 responses for the sustainability case-based without TRIZ, 20 responses for the electrical case-based with TRIZ, 136 responses for the electrical case-based without TRIZ, 25 responses for the automotive case-based with TRIZ and 121 responses for the automotive case-based without TRIZ. The finding determined most students intended to answer the activity without TRIZ, which shows that the implementation of TRIZ was not used widely in the Technical Program even though the TRIZ subject was taught during the lower secondary school. However, the students who participated in the TRIZ activities agreed (average mean = 4.12) with the encouragement of TRIZ being used widely. This shows a positive response among technical students to this TVET digital curriculum. This workshop will give an overview of the developed DG-TIPS and will have an in-depth discussion with the participants to evaluate the possibility of implementing the TVET digital curriculum.

Assoc. Prof Ts Dr Haryanti Mohd Affandi is a senior lecturer at the Department of Engineering Education, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia. Her research interests focus on competency development, measurement and evaluation, and construction management. Her research has been established in the scope of TVET at the national and international levels.

Paper Session 17: Recorded Session

How to Make Technical and Vocational Education Meaningful?

Juan Alberto Mena Lorenzo. Ph D.

Center for Technical- Vocational Education Studies
Pinar del Río, Cuba.
E-mail: juan.mena@upr.edu.cu

Jorge Luis Mena Lorenzo. Ph D.

University of Pinar del Río, Cuba
E-mail: jorgel@upr.edu.cu

Vilma María Pérez Viñas. Ph D.

Center of Studies of Educational Sciences.
E-mail: vilma.perez@upr.edu.cu

Pedro Luis Yturria Montenegro. MSc.

University of Pinar del Río, Cuba
E-mail: pedro.yturria@upr.edu.cu

Abstract: It was initially proposed as a starting point that the significance of Technical and Vocational Education is achieved if the polytechnic school becomes the center of sociocultural and business transformations in the territory and if, consequently, vocational training develops

more closely linked to the work and the profession. In this way, the polytechnic school-work entity integration raises the link between theory and practice to its highest expression, and students appropriate professional content more efficiently. Undoubtedly, this aspiration requires excellent teacher training, in which teachers understand that their subjects are part of a technical-professional curriculum that must be consciously assimilated by students. Therefore, the contents taught must be systematized, fundamentalized, problematized and professionalized according to each specialty, so that their learning has meaning for the students. The research experience began in April 2015 and ended in July 2017. A multiple case study was designed in several polytechnic schools in the territory and in labor entities. Instruments (interviews, surveys, class observation and pedagogical tests) were applied to a sample of 66 educational agents and 465 students. The results showed the tendency in teachers to academicism and not to the professionalization of the teaching-learning that they manage. A methodology was developed for teacher training that includes psychopedagogical and scientific-technical improvement actions and creative work with students at school, in the sociocultural environment and in labor entities. The statistical results show significantly ($p < 0.01$) the transition towards the quality and significance of Technical and Vocational Education in the Province of Pinar del Río.

Keywords: teacher training, technical-vocational education

Biographical notes:

Juan Alberto Mena Lorenzo. Ph D. is a full professor, researcher and director of the Center for Technical- Vocational Education Studies in Pinar del Río, Cuba.

Jorge Luis Mena Lorenzo. Ph D. is a full professor, researcher and roordinator of the Master's Program in Educational Sciences at the University of Pinar del Río, Cuba.

Vilma María Pérez Viñas is a full professor and researcher at the Center of Studies of Educational Sciences.

Enhancing the Standing of Vocational Education and the Occupation It Serves: A Synthesis.

Stephen Billett dr. dr.h.c. (Jyvaskala) dr.h.c. (Geneva) FASSA

Professor of Adult and Vocational Education

School of Education and Professional Studies

Mt Gravatt campus

Griffith University

176 Messines Ridge Road

Mount Gravatt, Queensland, 4122 Australia

Email: s.billett@griffith.edu.au

Tel: (61) (7) 3735 5855

Abstract: The relative low standing of vocational education and the occupations it serves, is a key impediment to how it is resourced, supported and engaged with by young people and their parents. This paper comprises a synthesis of three distinct projects seeking to identify how more young people might consider vocational education as a worthwhile and valid pathway. The projects from: i) developing economies (for UNESCO), ii) Australia (for government), and iii) across Europe and Scandinavia with academic colleagues provide consistent messages about that standing, and offer evaluations of how vocational education and the occupation it serves might be more positively engaged (Billett, Stalder, Aarkrog, Choy, Hodge & Le, 2022). Central here is addressing the global issue of enhanced aspirations of young people and their

parents that are counter to young people making informed and impartial decisions about pathways within and beyond schooling that include vocational education. Overall, public education by government, support from occupational groups and workplaces and making vocational education and its institutions more attractive to young people and offering evidence of positive outcomes are likely ways forward, particularly at the local level. How these initiatives are best enacted are likely to be country- and locality-specific.

Keywords: standing of vocational education and occupations, public policy action, public education, roles of teachers, parents and schools in post-school decision-making

Biographical notes:

Dr Stephen Billett is Professor of Adult and Vocational Education at Griffith University, Australia, a National Teaching Fellow, an Australian Research Council Future Fellow, Fulbright scholar and has honorary doctorate from Jyvaskala and soon from Geneva. He has worked in industry, as a vocational educator, educational administrator, teacher educator, professional development practitioner and policy work in Australian vocational education and as a teacher and researcher at Griffith University.

Gendered Career Decision-Making: Occupational Segregation in Modern Apprenticeships

Emma Bolger

University of the West of Scotland
Department of Education and Social Sciences
Paisley Campus
PA1 2BE
Scotland, UK.
E-mail: emma.bolger@uws.ac.uk

Abstract:

In Scotland, apprenticeships are the most prominent form of Vocational Education and Training (VET), with a current Scottish Government target of 29,000 participants per year across modern, technical and graduate apprenticeship routes. Gender divisions and challenges in VET mirror those seen in the wider labour market, in relation to occupation, role and level, professional identity and the lifelong career journey that can start with VET. Apprenticeships have been evidenced as a clear and longstanding example of gendered career outcomes in the labour market. Attention, for over 20 years, has been on the presentation of persistent occupational segregation in apprenticeship programmes. Research has primarily focused on the economic and social impact of occupational segregation over career decision-making processes of individuals. This paper will present new research which uses participants on the Scottish Modern Apprenticeship Programme as a data source on gendered career decision-making.

Keywords: apprenticeships; gender; career; equality

Bibliographical notes:

Dr Emma Bolger is a lecturer and the programme leader of the MSc Career Guidance and Development at the University of the West of Scotland. Emma's teaching and research focuses on equality, diversity and inclusive practice in career guidance and development. She also write on researcher ethics in practioner-led and practice based research.