

Vocational Education & Training

Voices from Research

VII Stockholm International Conference on
Vocational Education & Training
May 7-8, 2018



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

Book of Abstracts

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PROGRAM **Monday, May 07**

12.00-13.00	Lunch Buffet at Birka Terminal, <i>Stadsgårdsterminalen</i> , Stockholm Registration
13.00 -13.30 Room Waldermarsudde	Opening and practical information Professor Lázaro Moreno Herrera & Associate Professor Marianne Teräs
13.30-14.30 Room: Waldermarsudde	Keynote 1: Mr. Thomas Persson, The Swedish National Agency for Higher Vocational Education, Sweden: The Swedish higher Vocational Education System – Construction, experiences and results Chair/Discussant: Viveca Lindberg
14.30-15.00	Coffee break
PARALLEL SESSIONS 15.00-16.30 Room: Waldermarsudde	Paper session 1: VET and language issues Nina-Madeleine Peitz, University of Paderborn, Germany: Is language in vocational education and training preparatrion really the Warp and the Woof? A German perspective. Janne Kontio, Stockholm University, Sweden: Auto mechanics in change: An interactional perspective on vocational education, language use and assessment. Eva Eliasson, Stockholm University, Sweden: Language developing methods in vocational education Chair/Discussant: Natasha Kersh
Room: Kastellholmen	Paper session 2: Equity, inclusion and diversity Edward C. Fletcher Jr. and Victor M. Hernandez-Gantes, University of South Florida, USA: Promoting Equity, Inclusion, and Safety Through a High School Academy in the United States Hedvig Skonhoft Johanssen, Oslo Metropolitan University, Norway: We just disagree about football, not religion” - Diversity as experienced by Norwegian VET-students Haege Nore Oslo Metropolitan University, Norway: Mapping refugees’ skills and competences against European learning outcomes and standards – a pathway to future careers or a contradiction? Chair/Discussant: Michael Gessler
Room: Beckholmen	Paper Session 3: VET and the world of work Miguel Pereyra, University of Granada, Spain: The Workshop Schools program. A case study of training for employment Maarit Virolainen, University of Jyväskylä, Finland: Vocational education and training institutions’ collaboration with the world of work from the perspective of actor networks and ecosystems of learning Volker Wedekind, University of Nottingham, UK: Sugar, Timber and Tyres: How do vocational qualifications become valued in the labour market Chair/Discussant: Karen Evans
Room Skeppsholmen	Paper Session 4: Different forms of learning in VET Helena Koskinen, Tampere Vocational College, Finland: Phenomenon-based learning and implementation in vocational upper secondary education; Case study: Tampere Vocational College Tredu Franz Kaiser, University of Rostock, Germany: The Strength of Theme Centered Interaction (TCI) for Vocational Education

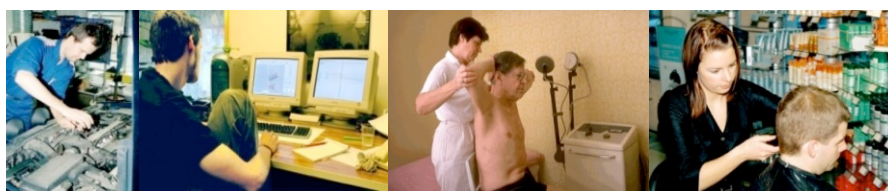
	<p>Shu-Nu Chang Rundgren, Stockholm University, Sweden: Briding formal and informal learning – Investigating full-time and part-time young fishers and school teachers' viewpoints concerning sustainable fishing</p> <p>Chair/Discussant: Vibe Aarkrog</p>
16.30-17:15	<p>Boarding Birka Cruise - Check-in, boarding-cards and cabin keys Information about on-board programme and practicalities</p>
17.15-18.15 Room: Stockholm	<p>Keynote 2: Dr. Enni Paul, Stockholm University, Sweden: Literacies as Vocational Knowing in Swedish Upper Secondary Health Care and Social Work Apprenticeship Education Chair/Discussant: Franz Kaiser</p>
18.30-20:00 Room: Stockholm	<p>Paper session 5: VET Teacher Education I Seija Mahlamäki-Kultanen, Häme University of Applied Sciences, Finland: Teacher education forum and the OPEKE project to develop vocational and professional teacher education in Finland</p> <p>Per Andersson, Linköping University, Sweden: VET teachers' continuing professional development for industry currency in the initial occupations</p> <p>Krista Loogma, Tallin University, Estonia: Critical incidences and events in vocational teachers' life careers</p> <p>Chair/Discussant: Maarit Virolainen</p>
Room: Sandhamn	<p>Paper session 6: Learning at work and beyond Barbara Stalder, University of Teacher education Bern, Switzerland: Learning opportunities within and beyond the borders of schools and workplaces</p> <p>Mohd Firdaus Mustaffa Kamal, Sultan Idris Education University, Malaysia: A Methodology for Integrating Work Based Learning in the Construction Management Program</p> <p>Heta Rintala, Tampere University of Technology, Finland: Students' Experiences in Workplace Learning and Pedagogic Practices in Vocational Education and Training in Finland</p> <p>Chair/Discussant: Marianne Teräs</p>
Room: Roslagen	<p>Paper session 7: Self-regulation, augmented feedback and motivation Laura Pylväs, University of Tampere, Finland: Vocational Students' Regulation of Learning</p> <p>Yi-Fang Lee, National Taiwan Normal University, Taiwan: The influences of timing and frequencies of self-controlled feedbacks on motor skill learning for upper secondary vocational students</p> <p>Christof Naegele, University of Applied Sciences and Arts, Northwestern Switzerland: The Motivational Power of a Job to Perform and Learn to become Committed and Satisfied</p> <p>Chair/Discussant: Petri Nokelainen</p>
Room: Carlshamn	<p>Paper session 8: Comparative studies in VET Matthias Pilz, University of Cologne, Germany: Typologies to compare different VET systems: purposes and a new approach</p> <p>Christian Helms Jörgensen, Roskilde University, Denmark: The policy architecture for vocational education and training</p> <p>Karen Evans, University College London, UK: How can vocational learning be sustained in contingent and precarious work?</p> <p>Chair/Discussant: Maria Christidis</p>

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Room: Gotland	<p>Paper session 9: Excellence, aspirations and bildung in VET Yael Shalem, University of Witwatersrand, South Africa: When Is Vocational Education Educationally Valuable?</p> <p>Monica Moso-Diez, Bankia Foundation for Dual Training, Spain: Higher Initial Vocational Education and Training aspirations among young people in Spain</p> <p>Philip Gonon, University of Zurich, Switzerland: Bildung meets transformation – Becoming an entrepreneurial learner</p> <p>Chair/Discussant: Janne Kontio</p>
20:00-20:30	Accommodation in cabins
20.30	Dinner & Social events

Tuesday May 08

7.00-8.50	Breakfast
08.50-09.00	Introduction to Day II, Marianne & Lázaro
Room: Stockholm	
09.00-10.00	<p>Keynote 3 Mr. Pekka Kämäräinen, University of Bremen, Germany: Reorientation of innovation researchers at the end of the innovation project – Case study on research challenges in the follo-up of phase of the Learning Layers project.</p> <p>Chair/Discussant: Christian Helms Jorgensen</p>
Room: Stockholm	
10:00-10:30	Coffee Break
10:30-12:00	<p>Paper session 10: Learning health care professions Vibe Aarkrog, Århus University, Denmark: Students' learning in simulation-based learning in the social and health care programs.</p> <p>Harry Cephas Charsmar, Stockholm University, Sweden: Inter-Professional Simulation Education in the Medical and Health Sciences</p> <p>Glynnis Vergotine, University of Witwatersrand, Soth Africa: Midlevel dental occupations: Document analysis of scope and autonomy to practice</p> <p>Chair/Discussant: Nina-Madeleine Peitz</p>
PARALLEL SESSIONS	
Room: Stockholm	
Room: Sandhamn	<p>Paper session 11: VET teacher education II Haryanti Mohd Affandi, The National University of Malaysia, Malaysia: Exploring the influencing factors towards Malaysian Vocational College teachers' career choice</p> <p>Hamid Asghari, Karlstad University, Sweden: The Paradox in the Industrial Technology Programme</p> <p>Katarina Sipos, Stockholm University Sweden: Educational improvement in education – on a joint venture between profession, authority and academia</p> <p>Lewis Hughes Deaking University, Australia: Emergence of the VET Practitioner Research Network: Nurturing a QA enhancing Australian VET practitioner researching community of practice</p> <p>Chair/Discussant: Volker Wedekin</p>
Room: Roslagen	<p>Paper Session 12: Validation, recognition of prior learning and skills formation Maria Johansson, Linnaeus University, Sweden: Ideas of vocational knowledge in validation of hairdressers</p> <p>Markus Maurer, Zurich University of Teacher Education, Switzerland: The challenges of expanding recognition of prior learning (RPL) in the Swiss vocational education and training system</p>



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ABSTRACTS

Keynote 1: The Swedish Higher Vocational Education System – construction, experiences and results

Thomas Persson

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Abstract: The Swedish HVE system – running since 2009 - is constructed after discussions between the National labour market organisations and the Government. On the local level there is a Provider who runs a HVE programme. The content of the programme is identified by representatives from interested Employers in Private Companies or Public Sector Organisations. The Provider appoint a steering committee which consists of a majority from the Employers. The Provider and the Employers then make an application to the Agency in order to get a permission to start and allocate public financing. The Agency then decide to permit 2-5 starts of a programme, or not. The annual HVE budget normally admits that 25-30% of the applications may be approved by the Agency. The Employers contribute to the financing of running the programme.

The Agency assesses the ongoing programmes in two different ways: A formal inspection in order to judge if the Providers follows the legislation and a Quality Assessment to respond about the quality of the programme. The Agency also produces statistics about the programmes and the system, and executes evaluations about different parts of the system.

The rate of examined students in work within a year after finishing a programme is now 93%. The rate has increased from appr. 80%.

Keywords: Higher vocational education (HVE) system

Bibliographical notes:

Mr Thomas Persson is the Director General at the Swedish National Agency for Higher Vocational Education (HVE). He works for the Government and is responsible for the function of the HVE system and the Agency. The Agency makes analysis about the needs of HVE, decides about which HVE programmes that will run from time to time, assesses ongoing programmes, promotes and develops the HVE system.

PAPER SESSION 1: VET AND LANGUAGE ISSUES

Is Language in Vocational Education and Training Preparation Really the Warp and the Woof? A German Perspective

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Abstract: German language competence levels are far too low within the group of young adults during their vocational training phases having implications both on their professional future but also on personal success in life. Training Preparation in the German Vocational Education system prepares students on their way from school to work being faced with their increasing diverse backgrounds with respect to mother language and German language abilities. Professional teachers must deal with the challenge of linguistic diversity during subject lessons. Students' language deficiencies lead to barriers of understanding on both sides.

The project "Inclusive Qualification Modules (QBI)" connects to these challenges as it develops, tests and evaluates qualification modules in four German vocational schools.

Considering the project's major aim of inclusion and integration, results emphasize the significant role language competence plays and furthermore teachers' awareness for language in this special target group. Activities of analysis, development, implementation and evaluation are connected in a circular design-based research process.

The paper focuses on the final step of the project – the critical evaluation of the implementation phase of the design with the aim of establishing future theories regarding the design principles in the four case studies. Systematized results are based on group interviews with teachers, curricular analysis, students' questionnaires or students' documents.

Keywords: Professional Language Competence, Training Preparation, Students' Linguistic Needs, Language in Vocational Training

Bibliographical notes:

Prof. Dr. Nicole Kimmelman holds a professorship for Business and Human Resource Education at the University of Paderborn, Germany. Her main areas of research: Diversity Management/Inclusion in Education, Integrated Content and Language Learning, Vocational Competence Assessment and Development, Transition from school to work.

Nina-Madeleine Peitz is a doctoral student of Prof. Dr. Nicole Kimmelman. She holds a master degree in International Economics and Management. Apart from vocational education and training as well as language science and application (English, German, French, Spanish), her main areas of research are: Innovations and Challenges in Language Learning in Vocational Training, Transition from school to work, Intercultural Training.

Auto mechanics in change: An interactional perspective on vocational education, language use and assessment

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Abstract: This study builds on my PhD-thesis *Auto Mechanics in English* (Kontio, 2016) and is to appear as a chapter in an upcoming Swedish book on vocational education and assessment in Sweden. The chapter aims to reflect the eclectic focus of my dissertation; the focus on (second) language use, identities and gender(ed) norms, and in doing so it highlights the contributions made in relation to the theories and methods of analysis applied. Particular focus is on how vocational language use relates to the assessment of proficiency. The chapter starts with a detailed description of the vehicle program and the fundamental changes that the education is currently undergoing. Then the theoretical and methodological perspectives will be described and discussed. The following section presents the environment from which the following analyzed examples are taken. The chapter is then concluded with a summary where the most important contributions in relation to vocational skills, vocational language use and the vocational research field are discussed.

Keywords: Assessment, Auto mechanics, Conversation analysis, Identity, Second language use.

Bibliographical notes:

Janne Kontio is a Doctor of Philosophy (PhD) in education, currently working as senior lecturer at the department of Education at Stockholm University and as a post doc at Karlstad University, Karlstad.

Main interests: Vocational education, Content and Language Integrated Learning (CLIL), Classroom interaction, Language and identity, New Digital Media.

Language developing methods in vocational education

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Abstract: During the academic year 2017/2018, there is an ongoing project at the Department of Education, Stockholm University, known as *Language developing methods in vocational education*. The project involves teachers in the vocational teacher program as well as mentors in upper secondary schools, where the vocational students do their work place training. The aim of the project is to:

- Increase the competence in language-developing methods.
- Strengthen the cooperation between teacher trainers and mentors through common training and exchanges of experiences.
- Document the mentors' projects with the intention of giving the teacher-students access to material about language developing teaching forms.

The background of the project is that vocational teacher-students have requested more knowledge about teaching students that speak Swedish as a second language. During their work place training they often encounter large didactic challenges in teaching students with weak language skills. The importance of using language-developing methods in all subjects are emphasized by the Swedish national agency of education, and research on the subject (see Lindberg, 2001; 2004; 2005; Midttun, 2003; Mortensen, 2008; Morgan, 2004) highlights language-developing methods. Considering the recent increase of newly arrived immigrants, for whom a vocational education can grant the possibility to enter the work market (Sandwall 2013), efforts to this end is also crucial for integration.

So far, the project has progressed with material readings, three full days with lecturers and workshops, as well as supervision of the project groups. The project will end in early May with the presentation of language development projects that have taken place at vocational programs at upper-secondary schools.

Keywords: Language development, vocational education, teacher competence

Bibliographical notes:

Eva Eliasson is a Senior Lecturer (PhD) in Educational Science at Stockholm University. Her research interests mainly concern vocational and teacher knowledge, especially in health care educations, and the interplay between power relations and vocational knowledge.

Åsa Broberg is senior lecturer at the Department of Education, Stockholm University. Her field of research is history of education with focus on pedagogical development and transitions in vocational education and training.

Katarina Lagercrantz All is a Senior Lecturer at the Department of Education at Stockholms University. Her research interests focus on vocational education with special focus on students in the programme of health and social care, adult learning and questions about inclusion and exclusion.

PAPER SESSION 2: EQUITY, INCLUSION AND DIVERSITY

Promoting Equity, Inclusion, and Safety Through a High School Academy in the United States

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Abstract: The purpose of this study was to examine the school culture of a distinguished National Academy Foundation (NAF) wall-to-wall information technology (IT) high school academy. We were particularly interested in documenting how a smaller learning community promoted equity, inclusion, and safety for all students. Following a case study approach, we found that the academy had a positive school culture. The academy members embraced a unique attitude of acceptance for others. In addition, the academy was a safe place. The elements of the academy that were associated with a positive school culture included the open enrollment policy, wall-to-wall nature, small size, and student shared interests by focusing on IT as a theme. We believe the findings contribute to the literature on school culture and comprehensive school reform seeking to promote equity, inclusion, and safety within the high school career academy model in the United States.

Keywords: career academy, career and technical education, school culture, school reform.

Bibliographical notes:

Dr. Edward Fletcher is an Associate Professor in the Department of Leadership, Counseling, Adult, Career and Higher Education at the University of South Florida in the United States. His research agenda focuses on understanding the role and impact of career and technical education school reform efforts (i.e., career academies) on schooling experiences, student achievement, engagement, and improving student outcomes from secondary to postsecondary education and work.

Dr. Victor Hernandez is an Associate Professor in the Department of Leadership, Counseling, Adult, Career and Higher Education at the University of South Florida in the United States. His research interests focus on the interface that integrates the design, implementation, and evaluation of educational strategies designed to connect curriculum, teaching, and learning in work contexts as a means to maximize career-oriented learning for all students.

“We just disagree about football, not religion” - Diversity as experienced by Norwegian VET-students

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Abstract

Diversity as experienced by students attending the Norwegian upper secondary level vocational education and training (VET) is the topic of this paper, in a qualitative study of how diversity is addressed in the school-based learning of VET-students. The VET-student's experiences with diversity is analyzed through the following theoretical perspectives:

- A broader understanding of the concept diversity, starting with ethnicity, but also encompasses the interrelations between gender, religion and social class connected to diversity and multiculturalism (Reay, Crozier, & James, 2011).
- Intercultural approaches in VET-teacher practices (Teräs & Lasonen, 2013).

The data consists of ten qualitative group interviews with VET-students attending four selected vocational educational programs at ten different Norwegian upper secondary level schools, both urban and rural context schools.

Preliminary findings in the study are the following: Among the VET-students in the sample a perceived larger, collective “us” as the in-group depends on the levels of diversity in the student group at the school. Further, there are substantial differences whether it is an ethnically diverse or homogenous group. In ethnically mixed student groups, there also seemed to be a substantial, collective identity work into making diversity and acceptance of cultural and religious differences a shared student culture – such as negotiating the terms that it is alright to disagree about football, but not about religion.

Keywords: VET-students, Diversity, student cultures, Intercultural learning

Bibliographical notes:

Dr Hedvig Skonhoft Johannesen PhD is an Associate professor at the Department of Vocational Teacher Education at OsloMet – Oslo Metropolitan University. Her research interests are: Vocational education and training, sociology of knowledge, culture, class, diversity, gender and lifelong learning.

Mapping refugees' skills and competences against European learning outcomes and standards – a pathway to future careers or a contradiction?

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Abstract: Fast intergration of migrants and refugees into practical/professional work or into training and education are political priorities in Norway as in most European countries (Norwegian White Paper 16 (2015-2016); Official Report Norway 2017:2; EU Skills Profile Tool, 2017). As part of the integration process, early mapping and recognition of prior learning (RPL) is needed, underpinned by career guidance. A variety of digital tools for such mapping are developed by different stakeholders both on national and European level, many of them anchored in the European Qualification Framework (EQF). This study aims to investigate the feasibility of using common European frameworks and standards (Brockmann et al., 2008) for mapping refugees' vocational skills and core work skills, and draws on two Erasmus+ projects. The two projects are linked to an existing learning outcome- based tool. Research questions are: 1) to what extent do predescribed skills and competences meet refugees' experiences from their informal and non-formal learning in contexts very different from the European? 2) which impact has the tool on the career guidance and on the refugees' skills profiles at the end? Through educational design research we are looking into the design and use of artefacts, career guidance processes and contents in a RefuPass.

Keywords: Recognition of prior learning, refugees, qualification frameworks, artefacts

Bibliographical notes:

Hæge Nore is a Professor at the Department of Vocational Teacher Education at OsloMet – Oslo Metropolitan University, Norway. Her research interests include vocational education and training, workplace learning, hybrid learning, assessment in VET and the recognition of prior learning.

PAPER SESSION 3: VET AND THE WORLD OF WORK

The Workshop Schools program. A case study of training for employment

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Abstract:

This paper analyzes a case study on the Workshop Schools (Escuelas Taller) program in the Malaga Functional Region as part of a broader research project "Policies supporting Young People in their life course. A comparative perspective of lifelong learning and inclusion in education and work in Europe "financed by the European Union within the Horizon 2020 strategy. This initiative is part of the broad action plan of LLL policies, specifically, those measures for the training of young people between the ages of 16 and 25 for employment. It is not exclusive to the municipal institutions but extends beyond these limits to take in the entire region of Andalusia. It combines training and employment initiatives. The Workshop Schools (Escuelas Taller) are a result of the policies of the European Strategy for Employment, financed by the European Social Fund, but with application throughout an Autonomous Community as they form part of the work-linked training policies (alternating periods of training at school and in the workplace). They represent the features most highly valued by the different actors involved. The aim of this case is to examine and analyse the integral intervention on training and employment, complemented by other activities carried out in coordination with the different agencies and actors involved.

The main aim is for them to become qualified by alternating training with work experience in developing services of public utility or social interest, and ultimately to assist in their finding employment. This paper analyses and criticizes the challenges and shortcomings of this policy.

Keywords: Workshop Schools, training for employment, young adults, policies of Life Long Learning.

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Vocational education and training institutions' collaboration with the world of work from the perspective of actor networks and ecosystems of learning

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Abstract: Vocational and professional education institutions, as well as higher education institutions are more and more expected to collaborate with the world of work and each other. At the same time the boundaries of organisations have become somewhat blurred. Employers may be subcontractors for a larger firm or subdivisions of an enterprise (organisation) may serve their headquarters through digital connections on the other side of the globe. As a result, the forms and cultures of organisations which educational institutions are expected to collaborate with have become rather complex and difficult to figure out. In order to understand better the complexities of collaborative practices that educational institutions are dealing with, this paper explores in particular two approaches which theorize transformed organisations: actor network theory (ANT) and discussions on ecosystems of learning (EL). The goal of the paper is to explore, what characteristics of the “collaborative contract” in the educational institutions' collaboration with the world of work do the approaches enable to address. The analysis is based on a selected literature review of research incorporating concepts ANT or EL. Empirical examples are drawn from a study on two developmental collaborative networks of Finnish Universities of Applied Sciences, eAMK and Toteemi.

Keywords: collaboration, VET, work, organisation, ecosystem, actor network

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Sugar, Timber and Tyres: How do vocational qualifications become valued in the labour market

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Abstract:

Education organisations are under constant pressure from policy makers, political actors, and the public to make their programmes responsive to the needs of the economy and society. In contexts of social change and where broader economic and societal issues such as high rates of unemployment are prevalent, this pressure is heightened in part because of what Grubb and Lazerson (2004) have dubbed the ‘Education Gospel’, that is the faith that education can solve intractable economic and social problems. Typically education organisations are expected to provide both a quality educational experience and make their offerings relevant and informed by the needs of employers. The degree to which they succeed is very often measured in terms of the degree to which students that participate in the programme are deemed to be employable. This paper seeks to explore the ways in which different types of qualifications and programmes lead to different employment opportunities. The focus is not on the educational content and process as much as the way the various actors in the labour market (specifically the students and the employers) make sense of the qualifications.

This paper draws on case study data from a project that sought to understand the relationship between student employability, curriculum, and organisational responsiveness at a range of South African education and training organisations. What emerges from the cases is that responsiveness and the way those responses impact on employability vary greatly and are in some respects contradictory. In order to make sense of the diverse ways in which responsiveness works and the ways in which organisations enhance the employability of their students, an analysis is required of the ways in which educational qualifications and educational processes are institutionalised. An institutional perspective goes beyond thinking in terms of policies, or in terms of educational practices or curriculum, but rather examines the ways in which policies, organisations and practices become institutions that have regulatory, normative and cultural-cognitive elements (W. R. Scott, 2014). The degree of institutionalisation of the education organisations and their practices, and the understandings of those practices by students and employers, is key to whether this has implications for the employability of the graduates of those programmes.

Keywords: Institutions, vocational qualifications, labour market, education policy

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PAPER SESSION 4: DIFFERENT FORMS OF LEARNING IN VET

Phenomenon-based learning and implementation in vocational upper secondary education; Case study: Tampere Vocational College Tredu

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Abstract: The purpose of this presentation is to show that the phenomenon-based learning method is useful in vocational education on practice. There is growing demand for high level vocational and practical skills, and there has to be effective ways to meet this demand. This case study is implemented in a new city district Hiedanranta where is a smart and sustainable city ecosystem, and entire infrastructure will be built by new ways. The implementation of the phenomenon-based learning in vocational studies is based on long-term relation between college and enterprises, competent teachers with practical work-experience, work-based need of competence, possibility to cross the boundaries between subjects and study programs, possibility to act in a team as an individual following own study plan, and real job functions. Students participate all the operations from planning and brainstorming workshops to execution. Students work with designer, entrepreneurs, contractors and students from the Universities and the Universities of Applied Sciences. The conclusion is that when using the phenomenon-based learning model young vocational students learn to form an overall picture of work and their processes and understand the multiple competences needed in genuine working life and relations between several components.

Keywords: phenomenon-based learning, competence, vocational

Bibliographical notes:

Helena Koskinen [M.Sc (Education)] is the director of vocational education in Tampere Vocational College Tredu in Finland. Her career in pedagogical tasks started 1999 as a teacher. Before that she has also taken degrees in vocational sector [B.Sc (Forestry)]. She has collaborated with business and industrial sectors and participated in various both national and international projects in vocational education field, and represents vocational education and training of Tampere Region.

The Strength of Theme Centered Interaction (TCI) for Vocational Education

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Abstract: Vocational education aims to develop qualifications linked to the demand of the labour market. The individual interests and the simultaneous acquisition of democratic competence in the sense of a critical, self-reflective planning ability are rarely pursued in that context. The contribution shows the possibility of combining these aspects in VET in alternative forms of both learning and teaching in the degree program for vocational teachers at the University of Rostock. We use therefore Theme-Centered Interaction (TCI), a group-dynamic method in the tradition of humanistic psychology, developed in the USA by Ruth Cohn in the 1960s. The main aim of the method is to develop a creative learning situation with a participative way of learning, that enables all members to be the chairperson. After discussing the development, main characteristics of the method we focus its potentials for Vocational education in times of individual “patch-work-biographies”. This exemplification illustrates how learning in its form and attitude can promote critical self-reflective potential and authentic interactions between learners and lecturers. Acquiring democratic competence in society can be experienced by the students in a practical way. Furthermore, there is the possibility to learn both basic theories and practical skills. TCI can be an approach to bring critical theory and its vision of non-hierarchical discourse in practice of VET.

Keywords: Group Dynamics, Theme-Centered Interaction, Selfreflexion, VET Teacher Training, Democracy

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Briding formal and informal learning – Investigating full-time and part-time young fishers and school teachers' viewpoints concerning sustainable fishing

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Abstract

Sustainable development is the educational and global challenge. To contribute to formal and informal learning, the study aims to explore what viewpoints are found in young fishers' and school teachers' viewpoints concerning sustainable fishing in Tanzania. Focus group interviews were conducted with 42 young fishers (including 25 part-time fishers and 17 full-time fishers, aged from 16 to 19) and nine school teachers during the spring of 2017 to collect responses on their practices (fishing or teaching practices) concerning sustainable fishing. Besides qualitative content analyses, descriptive quantitative analyses were done to show the distributions of knowledge and values linking to different subject areas. It was revealed that both the part-time and full-time young fishers presented the knowledge aspect to a high degree than the school teachers. Among the different subject areas, knowledge from environmental science was found dominant in all the participating groups' responses, but knowledge from the subject area of ethics was less presented. Concerning the values aspect, it was interesting to find that the teachers' group presented values to a higher degree than the young fishers' groups, mainly linked to the subject areas of environmental science and economy. The implications for educational practice, curriculum and research are discussed.

Key words: Sustainable fishing, socioscientific issues, knowledge, values, young fishers, teachers

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Mrs. Fika Burton Mwakabungu is a PhD student in the Department of Education at Stockholm University in Sweden. She has worked as a chemistry teacher, teacher educators, assistant director of teacher education at the Ministry of Education and director of curriculum training in Tanzania before her PhD study in Sweden. Her research interests focus on vocational knowing and curriculum development in relation to both formal and informal context.

Dr. Shu-Nu Chang Rundgren is a Professor in Education in the Department of Education at Stockholm University in Sweden. Before Stockholm University, she was a professor in science education at Karlstad University in Sweden. Her research interests include sustainable development, scientific literacy for responsible citizenship and competence for modern citizenship, which can be linked to both formal and informal education at all school and higher education levels.

Dr. Marianne Teräs is a Associate Professor in Vocational Education in the Department of Education at Stockholm University in Sweden. She has two areas of research interests: professional and vocational education and training and migration and challenges of VET. Her research cover immigration research as well learning expertise via simulations in health care area.

Keynote 2: Literacies as Vocational Knowing in Swedish Upper Secondary Health Care and Social Work Apprenticeship Education

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Abstract: The aim of the dissertation presented here is to describe and critically discuss the literacies apprentice-students in the Health and Social Care Programme in the upper secondary school in Sweden are given access to during the workplace-based learning part of the education. The study draws on sociocultural understandings of learning and knowing, and on perspectives developed in the field of *new literacy studies* of literacies as situated social practices. Ethnographically inspired methods consisting of participant observation, interviews and study of textual artefacts in both the work and school domain are used to generate data. *Literacy events* and *literacy practices* students are given the opportunity to participate in are explored as a part of tasks in the work or school domain. Additionally, the literacies students do not gain access in these workplaces but are crucial in health care and social work are explored.

The results indicate that literacies in the work domain are to a large degree embedded in other work tasks. This contributes to making a large part of the reading and writing invisible for the students and their supervisors. Access to literacies at the workplace is not discussed between teachers and supervisors. A major finding is that students' access to digital literacies in the work domain depends on the local culture of each workplace and on individual supervisor's decisions, bringing questions of equality in the apprentice-education to the forefront. The digital literacies support central activities in the workplaces; not getting access to these practices raises questions about what kind of working life the apprentice-students are being prepared for. Thus the meaning given to the term employability, which is central in policy-documents for the apprentice education, seems to be enacted as preparing the students for a job in *one* position, rather than offering broad competences for advancement or changes in working life. School tasks can function in a compensatory way by introducing central texts in Health and Social care work for students, but writing these kinds of texts in the school domain are part of different literacy practices than when writing them in the work domain. Furthermore the schools have no possibilities to offer students access to the kinds of digital systems that are used in the work domain.

Keywords: vocational education, upper secondary school, apprenticeship education, workplace-based learning, Health and Social Care Programme, New literacy studies, literacies, literacy practice, literacy event

PAPER SESSION 5: VET TEACHER EDUCATION I

Teacher education forum and the OPEKE project to develop vocational and professional teacher education in Finland

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Abstract: In Finland, a new educational policy and steering mechanism was introduced in Sipilä's government program. It is based on broad strategic objectives and key projects. Lots of autonomy is allowed for in the actors' level. One of the strategic objectives was "a new elementary school", later operationalized to cover also vocational and professional teacher education. A Teacher Education Forum was established by the Ministry of Education and Culture and a national teacher development program was drawn up. Based on its six development targets, a development project call was launched.

This study analyzes OPEKE, one of the projects developing vocational and professional teacher education. The five development sub-projects cover the whole career of the teacher. The work of the vocational teacher is under great restructuring and the OPEKE project seeks long-term solutions to the development of their professional competence. The project involves all vocational teacher training organizations and key stakeholders.

The first results from the start-up phase will be presented based on the self-assessment model implemented in the national project. Self-evaluation demonstrates that all projects are proceeding to expected directions. Strategic steering that respects operators' autonomy seems to work in the intended way.

Keywords: vocational and professional teacher education, national educational policy, strategic development, steering mechanisms

VET teachers' continuing professional development for industry currency in the initial occupations

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Abstract:

Swedish VET was included in extensive school reforms in the early 2010s. However, VET teachers were not particularly involved in these reforms. They have also been relatively invisible in initiatives concerning teachers' continuing professional development (CPD). Therefore, a project was initiated to explore teachers' CPD concerning vocational knowledge and industry currency of competence from their initial occupations. The project applied a situated perspective on learning, identity, and boundary relations and processes. There were three parts: Analyses of participation in a national initiative, to let teachers up-date their vocational knowledge, e.g. through practicum in a workplace; a survey, with responses from 886 teachers concerning CPD activities related to their initial occupations; and interviews with 30 teachers.

10% of all VET teachers participated in the national initiative during its two first years. The most common activities identified in the survey were reading vocation-related texts, study visits in workplaces, and work with students' workplace learning. The survey also showed what values these activities created in terms of teachers' vocational knowledge, networks, and development of teaching. The interviews showed the value of varying school-workplace boundary processes. Work with workplace learning, study visits, skills competitions, and other industry arrangements, created CPD opportunities and networks.

Keywords: Vocational teachers, initial occupation, continuing professional development, boundary processes, industry currency.

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Critical incidences and events in vocational teachers' life careers

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Abstract: The paper considers, what implications the critical events and incidents in the course of the life careers of vocational teachers have on their professional lives and how the changes in their career paths reflect the social transformation in early 1990s.

The concept of life career (Watson, 1980) describe the (work)life of an individual as a process, linking subjective aspects of life with its objective/structural conditions. In the life career, the personal, non-work structural factors, such as social and class background and structural factors, reflecting broader political and socio-economic structures and changes are tightly interrelated with subjective factors. Individuals' own view of the processes of work and learning, which his/her life is following, is considered as subjective career. However, in the subjective career paths, some events and incidents – “critical incidents” (Ben-Peretz, 2002) – can have crucial meaning with far-reaching implications on teachers' self and their professional life as recalled by teachers in their memories. The paper base on the life stories of 18 experienced vocational teachers who are asked in interviews to recall the way they have become vocational teachers.

In the paper I argue, that the most dramatic events, causing discontinuities in the vocational teachers' life career paths reflect the societal changes in early 1990s from one hand and the teachers' changing family circumstances from another hand.

Keywords: life career, critical incidents, vocational teachers

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Dr Krista Loogma is professor of vocational education in the School of Educational Sciences at the University of Tallinn, Estonia. Her competence areas are related to education sociology, vocational education, education and labour market, education policy, research methodology.

PAPER SESSION 6: LEARNING AT WORK AND BEYOND

Learning opportunities within and beyond the borders of schools and workplaces

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Abstract: The development of vocational competence depends on learning opportunities at the workplace and at vocational schools, and how learning at both learning sites is intertwined. Learning opportunities are linked to job and school-related task characteristics. They are shaped by teachers and trainers, and depend on learners' capacities to make use of given opportunities and to craft their learning situation. This paper addresses the question, how situational and individual characteristics influence learning opportunities within and beyond the borders of the specific learning place. A model is tested which proposes that learning opportunities are influenced by a) teachers' and trainers' instruction practice and support, b) task demands at the school and the workplace, c) learners' possibilities to co-decide on learning contents and processes, and d) learners' cognitive abilities and core self-evaluations. To test the model, we rely on longitudinal data from two samples of IVET-learners (apprentices and students in school-based VET with internships, total N=1500) in Switzerland. It will be discussed how trainers, teachers and learners can contribute to favourable learning opportunities and competence development at VET schools and at the workplace.

Keywords: workplace learning, school-based learning, initial vocational education and training

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A Methodology for Integrating Work Based Learning in the Construction Management Program

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Abstract: Work-based learning (WBL) is a learning strategy that develop the student employability skill through integrating the curriculum with the workplace which provide students with real-life working experience. However, conventional approach in designing the curriculum is deemed to be insufficient to address the needs in this learning approach. This study proposed a methodology on how construction management (CM) curriculum can moved forward in integrating the WBL. The proposed strategy consist of identification of job task that is essential in real work environment with the assistant of the project management technical framework. Quantitative approach using survey has been carried out to identiy the important area that need to be focused on. Through this finding, the important area can be integrate in the courses found in the CM curriculum.

Keywords: Work-based Learning, Construction Management Education

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Students' Experiences in Workplace Learning and Pedagogic Practices in Vocational Education and Training in Finland

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Abstract: The currently implemented reform of vocational upper secondary education aims to increase workplace learning in vocational education and training (VET) in Finland. Consequently, understanding workplaces as learning environments and their pedagogic practices has become more and more important. This study focuses on students' experiences in learning at the workplaces within different forms of VET and varying vocational fields. Specifically, the study examines workplace curriculum or pedagogic practices that relate to how learning through practice occurs and is supported. The student sample ($N = 33$) was collected in 2017 and included both apprentices ($n = 15$) and students in a school-based VET ($n = 18$) in the fields of social services, health and sports, business and administration, and technology and transport. The thematic analysis was used to investigate the data from semi-structured interviews. Earlier research and the initial results suggest that participation in everyday work tasks is considered essential, whereas intentional learning strategies are less used. The study aims to identify strategies that enhance current practices and learning experiences in different fields and workplaces.

Keywords: Vocational education and training, learning, workplace, pedagogy

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PAPER SESSION 7: SELF-REGULATION, AUGMENTED FEEDBACK AND MOTIVATION

Vocational Students' Regulation of Learning

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Abstract: This study examines vocational students' development of self-regulation in the context of VET. The student sample (N=33) was collected in 2017 and included both apprentices (n=15) and students in a school-based VET (n=18) in the fields of social services, health and sports, business and administration, and technology. The concept of self-regulation refers to the process in which one regulates his/her own learning by the systematic use of motivational and behavioural strategies, e.g. time and resource management and self-reflection. Self-regulated learning takes place both in formal and informal learning contexts. Our earlier findings have indicated that self-regulation positively influences the development of vocational expertise, and further, the development of vocational excellence. In the context of apprenticeship training, strong self-regulation and social skills were shown to play a crucial role in helping a learner become involved in learning processes and to act as an active member of a work community. It was also considered to shape vocational students' learning environmental conditions (e.g., resources, guidance, learning tasks and work environments). The aim of the study is to provide new insights for creating learning environments that afford vocational students better opportunities to strengthen their self-regulatory skills during the training.

Keywords: Regulation of learning, vocational student, workplace learning, vocational education and training

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The influences of timing and frequencies of self-controlled feedbacks on motor skill learning for upper secondary vocational students

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Abstract:

This study explored the influences of timing and frequencies of self-controlled feedbacks on skill learning. The participants, upper secondary vocational students in auto motor mechanics, were divided into four groups and practiced a sequential task about overlapping welding 10 times. During the process, Group 1 could self determine when and frequency of getting feedbacks. Group 2 and 3 had three-time feedbacks; one group was provided when the participants requested and the other in fixed trials (at 2nd, 4th, and 8th). Group 4 had one-time feedback as learners requested. Feedbacks here referred to reviewing their own works, comparing them with standard piece and grading criteria. Participants' performance in each practice was graded by two welding experts, then scores were analyzed via ANCOVA technique. In addition, growth model was utilized to study the pattern of changes. The results indicated that the skill improvement (difference among trials) were greater in groups with more self-controlled feedbacks. Participants expressed more satisfaction in learning if they could decide the frequency and timing of feedbacks, while a few students expressed limited ability to use them. These findings imply that self-controlled feedback is a positive factor for skill learning; more training to enhance related ability for students is encouraged.

Keywords: motor skill learning, self-controlled feedback, upper secondary vocational students

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The Motivational Power of a Job to Perform and Learn to become Committed and Satisfied

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Abstract: Work is central to our lives, and characteristics of an individuals' job have an impact on the motivation. The motivational power of a job depends on the individual, organisational and social factors. In this paper, a model in which an individuals' need to learn, the job-control and a workgroups' social support have a direct positive effect on job performance and an individuals' opportunity to learn at work is proposed. Additionally, well-performing individuals in a learning-friendly environment will become better adapted to work, which should result in a higher commitment and satisfaction. Data stems from a multi-cohort longitudinal study on educational decisions and educational pathways of young people (BEN), running from 2012 to 2016 in the German part of Switzerland. The selected sample for this paper consists of employed individuals taking part in the second and third wave of the study. A mediated path model using Mplus was tested. First results show that commitment and the satisfaction with the organisation and satisfaction with the occupation all depend on performance and learning at work, but not directly on the predictor variables. We will discuss the implications of an individuals' need to learn and the organisations and work groups power to create a high performing and learning-friendly environment.

Keywords: learning at work, motivation, performance and learning outcomes.

Bibliographical notes:

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

PAPER SESSION 8: COMPARATIVE STUDIES IN VET

Typologies to compare different VET systems: purposes and a new approach

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Abstract:

Vocational education and training (VET) systems are structured from an international perspective in very different ways, both because different countries have different objectives for their VET systems and because VET is differently embedded within the national education and labour market systems. However, many of these typologies have weaknesses, for example in relation to the consistency of their descriptive criteria. This paper therefore explains in a first step the purposes of typologies in international comparative VET. In a second step it takes a multi-perspective approach to developing a new typology that builds on existing approaches from a range of disciplines, justifies a specific combination of these approaches, and substantially expands on them. Specifically, it combines a skill formation approach with both a stratification approach and a standardisation approach. It also explicitly acknowledges the practice of learning as a criterion. In a final step the paper gives some examples of typing VET systems.

Keywords: Typologies, comparative VET, skill formation systems, standardisation and stratification, practice of learning

Bibliographical notes:

Prof. Dr. Matthias Pilz is Professor of Economics and Business Education at the University of Cologne and Director of the German Research Center for Comparative Vocational Education and Training. His research interests are in international comparative research in VET, transitions from education to employment, and teaching and learning.

The policy architecture for vocational education and training

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Abstract:

Comparisons of the Nordic VET-systems (Jørgensen, et al, 2018) have demonstrated that policy measures often have multiple unintended and contradictory effects. This includes policy measures to increase the permeability from VET to higher education, which might result in lower retention of non-academic students (Jørgensen, 2013). Another example is measures to reduce drop-out from the VET programmes (Jørgensen, 2015). Initiatives to increase the retention of some students (e.g. individualisation) tend to exclude others. The unintended consequences of measures to manage one political problem are likely to create or aggravate other problems for VET. The unintended consequences of political initiatives can even overshadow the intended objectives, so that the overall effects turn out to be negative. As a consequence of this situation for VET policy, the management of key challenges for VET involves dilemmas and trade-offs for policy. However, these trade-offs are not always recognised, because policy-makers are occupied with managing acute and current challenges for VET. The aim of this paper is to systematically explore the connections between the main trade-offs for policy and use this to outline an architecture for policy-making in VET. It is based on the comparison of four Nordic countries, but is expected to have relevance for other European VET systems.

Keywords: VET policy, comparative VET, trade-offs for policy

Bibliographical notes:

Christian Helms Jørgensen is professor mso at the Department of People & Technology at Roskilde University in Denmark. His research interests include vocational education and training in a comparative perspective, school to work transitions and labour market careers, Social and gender inequalities in education and work and the connections between working life and education.

How can vocational learning be sustained in contingent and precarious work?

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Abstract:

This paper reviews connections between European Union and International Labour Organisation perspectives (see for example EC 2016; ILO 2016) on the growing prevalence of non-standard work and the challenges this presents in contrasting economies and societies. In particular, the limited attention that has been given to the learning and development of workers whose employment is characterised as ‘precarious’ or ‘contingent’. Examples from particular sectors (including creative industries sector, and continuing education and training sector) are used to explore the question of how non-permanent workers learn and develop in practice.

The methodological approach draws on Ragin’s (1991) comparative sociological approach in aiming to develop an extended dialogue between ideas and evidence yielded by UK and European-Asian research into how working lives are sustained in contingent work. The paper connects findings from international level surveys in Europe and Asia (Brown, Lauder & Ashton 2011; ILO 2013; McKinsey 2016) to micro-level data yielded by participants experiencing particular forms of contingent work in Britain (see Evans et al 2009; Lahiff and Guile 2016 Taylor 2017) and Singapore (see Bound, Sadik, Evans and Karmel 2018). The paper gives particular attention to use of prior and new knowledge, how work-related networks and relationships are developed and how roles are negotiated.

Keywords: workplace learning, adults, contract-based work, precarious work, affordances for learning, practice-based learning.

Bibliographical notes: Professor Karen Evans is Emeritus Professor of Education at the UCL Institute of Education, University of London and Honorary Professor in the Economic and Social Research Council LLAKES Centre for Learning and Life Chances. She is also Honorary Professor at RMIT University, Australia. She has directed major studies of learning and work in Britain and internationally.

PAPER SESSION 9: EXCELLENCE, ASPIRATIONS
AND BILDUNG IN VET

When Is Vocational Education Educationally Valuable?

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Abstract: In this presentation which is based on a book chapter we engage with a conceptual question: given that almost everyone accepts that some education should be vocationally oriented, that many people think more and more of education should be vocationally oriented, and that many people think that the development of skills and knowledge required for work will improve individual and national prosperity, what kinds of curricula are valuable *educationally* in programmes that aim to prepare people for work? Another way of putting this could be: when is vocational education merely training and when is it education in the full sense of the term ‘vocational education’?

Drawing on the analysis of ‘occupation’ (Guy Standing) ‘know-how’, (Christopher Winch) and ‘curriculum’ we argue that a sound vocational education curriculum has a clear and well-defined occupational role in mind; practical activities to be learned are underpinned by systematically organised bodies of knowledge; content coverage is structured sequentially, building epistemic relations between core and peripheral topics; and some knowledge for-its-own-sake is given a respectful place in the curriculum.

If vocational education is to be meaningful educationally, it will not be preparing people for casualised or fragmented work. The implication of this is that preparation for work does not require curriculum designers to sacrifice what is valuable in education in the first place but, rather, that the intrinsic value of education is deeply interwoven with the ways in which education can prepare people for work.

Keywords: knowledge, curriculum, occupation, labour market

Bibliographical notes:

Yael Shalem is Associate Professor of Education at the University of the Witwatersrand (Wits), South Africa. Her research interests include professional knowledge, curriculum, teacher education and teacher work. Together with Prof Shirley Pendlebury, she edited *Retrieving teaching: Critical issues in curriculum pedagogy and learning*, which was written in memory of Prof Wally Morrow, the founder of educational theory in South Africa. She is co-leading a professional knowledge project, based at the REAL (Researching Education and Labour) centre at Wits, which investigates the relation between professional knowledge, curriculum, labour market trends and labour process.

Stephanie Allais is the SARCHI Research Chair for Skills Development in the Centre for Researching Education and Labour at the School of Education of the University of the Witwatersrand. Her research interests are in the sociology of education, policy, education and development, curriculum, and political economy of education, focused on relationships between education and work. She teaches on an MEd focused on knowledge and work as well as supervising postgraduate students. Her book, *Selling Out Education: National Qualifications Frameworks and the Neglect of Knowledge*, was published by Sense in 2014. Until recently she has been special advisor to the Minister of Higher Education and Training, has served on many committees by appointment of ministers of education in South Africa, and has been involved in numerous policy processes.

Higher Initial Vocational Education and Training aspirations among young people in Spain

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Abstract: The goal of this article is to conduct a comparative study of the variables that influence educational aspirations for Short Cycle Tertiary Education (ISCED 5), also called Higher Initial Vocational Education and Training (Higher IVET) among young people in Spain. On the basis of the Spanish education system, the analysis focuses on young people, from 16 to 19 years old, studying

upper secondary education general studies or IVET studies (ISCED 4). Through a survey of 10,000 students, information about their aspirations is collected and analysed from a systemic multi-factorial approach. Its findings suggest that 21% of the sample would like to study Higher VET and decisive factors are individual and socio-economic, highlighting the level of performance and the level of parent studies respectively. Results vary according to whether aspirations come from upper secondary general or vocational students. The contribution of this research makes to the field lies in its novel comparative approach and in the quantitative scale of the sample. Nevertheless, we are aware that the research has its limitations and that it is necessary to continue study in this significant scientific field.

Keywords: Initial Vocational Education and Training, Vocational Aspirations, Short Cycle Tertiary education (ISCED 5)

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Dr Mónica Moso-Díez is the Head of the Centre for Knowledge and Innovation at Bankia Foundation. Her research interests focus on dual vocational knowing, VET governance and research and innovation agendas.

Mercedes Chacón-Delgado is the CEO of Bankia Foundation for Dual Training. Her research interests focus on dual vocational knowing, VET attractiveness, Pathways in VET, meaningful careers and governance.

Bildung meets transformation – Becoming an entrepreneurial learner

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Abstract: „Bildung“ in a transforming society has changed its content. Traditionally national structures are shaping the concept of education and learning. This specific culturally based concept was called in Germany “Bildung”, which was - and is seen still today - as a “Sonderweg” (see Bollenbeck 1990). In the end of 19th and at the beginning of the 20th Century this concept was contested by such different authors as Paulsen, Kerschensteiner and Dewey, who induced also the cultural value of work, business and industry (Gonon 2011). The elitist and humanist approach of the traditional concept of Bildung was criticized and it was stated, to widen this concept by vocational aspects of learning.

Today the former concept of Bildung has been oriented towards economical needs. Bildung got merged with business and entrepreneurship. Bildung as a successful transformation of the “self” has nowadays in the age of globalisation a more entrepreneurial note. In this contribution this change from a honourable person and craftsman (1) as a role model to a professional worker (2) and an entrepreneur of him- or herself (3) is depicted by three idealtypes.

Keynote 3: Reorientation of innovation researchers at the end of the innovation project – Case study on research challenges in the follow-up of phase of the Learning Layers project

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Abstract:

This paper discusses the transitional situation in innovation research when the funding period of a major innovation project is over. The paper discusses as the exemplary case the completion of the EU-funded Learning Layers (LL) project (2012-2016) and the follow-up phase. The focus is on the use of the Learning Toolbox (the main result of the project) as support for work-based and vocational learning as well as on knowledge sharing in work organisations.

Firstly the paper recapitulates the initial expectations of the project consortium, the changes in the approach of the Construction pilot and the results that were achieved with the Learning Toolbox in the initial pilot context. Secondly, the paper discusses the conceptual challenges in making explicit the legacy of the LL project in terms of *methodology* (the role of accompanying research), the *pedagogic approach* to vocational education and training (the shaping-oriented approach) and the *agenda for promoting innovations in working life* (building on the *work process knowledge* of skilled workers). Thirdly, the paper discusses the options of innovation researchers to promote transfer of innovation and the specific paths taken in the follow-up projects of the LL project that introduce Learning Toolbox into working life in new application contexts.

Keywords: Innovation research, Digital media, Vocational education and training, Workplace-based learning, Transfer of innovations

Bibliographical notes:

Pekka Kämäräinen works since 2005 as a senior researcher at Institut Technik & Bildung (ITB) at the University of Bremen, Germany. Prior to that he worked as a project manager at Cedefop (European Centre for the Development of Vocational Training) in 1994-1995 (in Berlin) and 1995-2002 (in Thessaloniki). His research interests are related to European cooperation in the field of vocational education and training (VET), in particular with focus on pedagogic innovations, recently also to introduction of digital media in VET.

PAPER SESSION 10: LEARNING HEALTH CARE PROFESSIONS

Students' learning in simulation-based learning in the social and health care programs.

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Abstract: In an ongoing project (2017-2019) about simulation-based learning in the social and health care programs the first part was a literature review focusing on the three phases of simulation-based learning pre-briefing, scenario, and debriefing (Aarkrog, 2017). The results of the review were summed up in the following four assumptions:

1. the better the teacher can make the students understand the interrelation of the three phases of simulation-based training (pre-briefing, scenario and debriefing) in relation to the learning outcome, the better the students' learning outcome will be.
2. high fidelity of the scenario motivates the students while being less beneficial for the students' learning outcome than a low fidelity of the scenario.
3. the more the teacher knows about the events in the scenario the more he/she will be able to establish psychological safety in the debriefing phase.
4. at the beginning of participating in the social and health care program the students will need relatively more directions and regulations from the teacher than later on in the program. These assumptions will be investigated in an empirical study including observations of each one example of a simulation-based lesson followed by interviews with the teachers and a group of four students twice in five social and health care schools, resulting in all together ten cases.

Keywords: Simulation-based learning, learning outcome, social and health care programs.

Bibliographical notes:

Vibe Aarkrog is an associate professor at the Department of Education at Aarhus University. Her research interests focus on transfer of learning, the interrelation of school-based education and training and workplace-based training in VET, practice-based teaching and learning e.g. in simulations, assessment of prior learning and drop-out in VET

Inter-Professional Simulation Education in the Medical and Health Sciences

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Abstract: Inter-professional simulation education is on a steady increase in the medical/health sciences. Hence, how learning is enhanced through simulation education in the medical/health sciences warrant investigation. This review traces the emphasis of learning in the simulation education literature with the main question: How is learning enhanced through simulation in inter-professional education and training in the medical/health sciences?

The analysis is guided by “complete learning”. Learning is defined and discussed from Bloom’s classification of learning in terms of adult learning. In summary, learning is deemed to be complete by the acquisition of knowledge and comprehension and further, the ability to put that knowledge into practice by physically performing a task or analyzing issues and drawing conclusions. The articles reviewed show that emphasis on complete learning is lacking in the research designs of simulation education, training and teaching. There remains lack of standard instruments for measuring learning outcome hence most studies constructs their own. It is recommended therefore that future researches should include complete learning focus in their research designs. The medical/health sciences community for simulation education needs to work towards standardized instruments for measuring learning outcomes.

Keywords: Inter-professional, Simulation education, Learning, Complete learning, Medical/health sciences

Midlevel dental occupations: Document analysis of scope and autonomy to practice

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Abstract: In South Africa, there are two midlevel dental occupations namely; dental therapists and oral hygienists supplementing dentists in offering basic dental care. Since several procedures performed by the three occupations are common, there is much debate about the care midlevel cadres provide and the training they receive in order to do so. The main aim of the study is to examine how the approved scope and autonomy to practice and the training of midlevel dental occupations affect perceptions regarding their daily work practices and professional identity. This presentation will explore one of the sub questions of this study, i.e. how SA policy amendments have influenced the scope of practice of midlevel dental occupations. Methods: Data collection involved an analysis of relevant policies, professional body and higher education documents. First, relevant policy documents for each midlevel occupation are summarised with specific attention to changes relating to the scope of practice and autonomy to practice. Second, legal queries and questioning of specified common scope of practice (local anaesthesia, diagnosis-making and tooth whitening) will be presented and the progress relating to each procedure explained. Third, how these policy changes influence the training of midlevel occupations is described.

Keywords: midlevel, occupation, scope, autonomy

Bibliographical notes:

Ms Glynnis Vergotine is an associate researcher and PhD candidate at the REAL centre School of Education at the University of Witwatersrand, South Africa. Her research interests focus on curriculum studies, the Sociology of Education, and Oral Health profession.

PAPER SESSION 11: VET TEACHER EDUCATION II

Exploring the influencing factors towards Malaysian Vocational College teachers' career choice

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Abstract: This paper explores literature review papers on the influencing factors towards Malaysian Vocational College teachers' career choice. The purpose of this study is to explore the factors that influenced Malaysian teachers to become a vocational teacher. The data was analysed using metadata analysis, and thematic synthesis using a completed review of career choice coded. Thematic synthesis has three stages: the coding of text line-by-line, the development of descriptive themes, and the generation of analytical themes. This paper identifies six factors that influence vocational Malaysians teachers choosing teaching as their career. The six factors are family influence, socio-cultural influence, individual, situational and spiritual factor. These six factors are findings from systematic review based on two category

articles, which are factors influencing teachers' career choice and factors influencing vocational. This pre model is suggested to further the study in order to develop a holistic model influencing factors towards Malaysian Vocational College teachers' career choice.

Keywords: vocational teachers, career choice and Malaysian Vocational College.

Bibliographical notes:

Dr. Haryanti Mohd Affandi is a senior lecturer at the Department of Teaching and Learning Innovation at the National University of Malaysia, Malaysia. Her research interests focus on TVET, industrial training, measurement and evaluation and construction management.

The Paradox in the Industrial Technology Programme

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Abstract:

In this article, we examine two Swedish industrial teachers' stories about their education, professional life and teaching. The stories are discussed in relation to the first paragraph of Article 23 of the UN Convention on Human Rights. The methodological starting point of our study is based on life stories and our analysis tools are taken from Bamberg (1997), who discusses how people position themselves in their stories. Our analysis shows three positionings. The first positioning appears in relation to workshop workers and to workshop work. The second positioning appears in relation to the industrial company and employer aspects. The third positioning appears in relation to employability. These three positions show that industry companies did not help industrial workers prevent occupational injuries and unemployment, and the industrial workers who were loyal to their employers did their best in the given set of circumstances. Vocational teachers educate Swedish children and young people to industrial workers, for the competitive industry companies in a neoliberal labour market, but we see a professional ethical dilemma in relation to the first paragraph of Article 23 in the way the industrial companies treats their industrial workers.

Keywords: Vocational education, vocational teacher, professional ethical dilemma, neoliberal labour market, life stories.

Bibliographical notes:

Dr. Hamid Asghari is a senior lecturer in Educational work at the Department of Educational Studies at Karlstad University, Sweden. His research interests focus on vocational teacher and vocational teachers' life stories.

Educational improvement in education – on a joint venture between profession, authority and academia

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Abstract: The national recurrent teacher training project for VET teachers is a success, happily ever after! The throughput rate is over 97% and in formative and summative evaluations from 7 universities between the years 2013-2017 and in surveys from more than 1200 teachers the predominant story is: “The course gave tools in coping with the new demands from the authority”, “Thankfully I am for an education improving my teaching and cooperation with the workplaces”. The teachers identify the support of the Swedish National Agency for Education. Headmasters and colleagues are involved in VET education and changes occurred at the organizational level. The collaboration has increased between schools and workplaces.

The purpose of the paper is to highlight some understandings of the outcomes in the project with a focus on the collaboration between different actors in the non traditional project: to create a recurrent teacher training in terms of sustainability. The point of departure is the approach used to design and implement the –on going learning evaluation through follow-up research. Inspiring theoretical roots are social constructivism, but the focus is on methodological standpoints in line with the traditions of the discourse joint knowledge (Gibson et al, 1994).

To sum up, the collaboration in this joint venture is about:

1. The Swedish National Agency for Education had a clear project ownership.
2. A clear division of roles maintained and thus researchers could create a distance by connecting and provide input through discussion of problems, but to be responsible for the concrete direction.
3. The project actors had a shared problem scenario and basic approach during the project developed a common approach to knowledge.
4. The teacher profession was advisory, but leaders in shaping the course structure and course information.
5. Systematic exchange of experience in organized heterogeneous cohort groups resulted in tangible tools that appears to be central in recurrent teacher training.

Keywords: Educational improvement, recurrent VET subject teacher training, collaboration, joint knowledge.

Bibliographical notes:

Dr Maud Baumgarten is a senior lecturer in the Department of Education at the University of Stockholm, Sweden. Her research interests focus on workplace learning, organizational learning, recruitment and skills development of the elderly.

Dr Katarina Sipos is a senior lecturer in the Department of Education at the University of Stockholm, Sweden. Her research interests focus on adult learner identities, lifelong learning in education and workplace, recruitment and skills development of the elderly.

Emergence of the VET Practitioner Research Network: Nurturing a QA enhancing Australian VET practitioner researching community of practice

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Abstract: In Australia, beginning July 2015, discussion between visionary VET colleagues has led to the establishment of the VET Practitioner Research Network (VPRN). The intention being to motivate and support VET teachers/practitioners in embracing research as part of their professional practice and, thus, further contributing to enrichment of the ‘what’ and ‘how’ of VET delivery through nurturing a *VET teacher as researcher* culture, but in a VET way preserving unique VET identity – VETness - in the Australian tertiary education arena. Drawing upon past research and ongoing exploration of VET teachers and research, this paper hypothesises that there is an entwining of teacher/practitioner scholarly identity – as arises from researching and drawing upon the research of others - with strengthened quality assurance. To achieve this, partnerships between VET teachers, providers and others in the VET stakeholding milieu beckon and VPRN motivations and means are discussed.

Progress to date is mostly in the establishment of VPRN website as a portal for teacher/practitioner accessing and contributing to VET research and as a *VET teacher researching* community of practice place for collegiate sharing and supporting. The website is now active, with 100+ members, but still in development toward being as is required to engage VPRN members beyond the early adopters.

Keywords: VET teacher, VET research culture, VET delivery, Quality Assurance

Bibliographical notes:

Dr Lewis Hughes PhD is an Honorary Fellow of Deakin University and the Director of Enviro-sys a consultancy focused upon nurturing and making best use of knowledge. His research interest is primarily addressing the relationship between lifelong learning and organisational (broadly defined) achievement. Lewis is an Executive Committee member of the VPRN and the thoughts, here shared, are his personal view of the possibilities.

**PAPER SESSION 12: VALIDATION, RECOGNITION OF PRIOR
LEARNING AND SKILLS FORMATION**

Ideas of vocational knowledge in validation of hairdressers

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Abstract: Validation is an emerging global practice. In policy on validation, the notion of knowledge is to a large extent replaced by a focus on general competences and learning outcomes structured by qualification frameworks. Vocational knowledge is often described as a situated judgement and as such connected to the pride of mastering something unique linked to the particular vocation, which is an idea of knowledge quite different from those in policy. The aim of the study presented in this paper is therefore to explore ideas of vocational knowledge when it is subject to validation prior to the vocational teacher education in Sweden, in comparison to how it is perceived by hairdressers. A potential for theorising the complexity of ideas of vocational knowledge is found within new institutional theory. Taking this theoretical perspective we developed our methodology accordingly and adopted a multimethod approach. In the validation procedure the criteria for vocational knowledge are conceptualized in a very general manner quite different from the pride of mastering something unique in the trade. One conclusion to draw from these preliminary results is that generic competences seem to be the most highly valued, with the risk of downplaying the specific character of hairdressers vocational knowledge.

Keywords: Vocational knowledge, institutions, ideas, hairdressers.

Bibliographical notes:

Maria Johansson is a Ph.D. student in pedagogy. Her research is focused on validation also labelled as recognition of prior learning, with a particular interest in vocational knowledge. She is also teaching pedagogy within the teacher education.

Eva Klope is a Ph.D. student in pedagogy. Her research is focused on vocational education of hairdressers with a particular interest in identity formation, gender and vocational knowledge. She is also teaching pedagogy within teacher education.

The challenges of expanding recognition of prior learning (RPL) in the Swiss vocational education and training system

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Abstract: In many parts of the world, the recognition of prior learning is considered to be an important means of improving access to VET qualifications. In Switzerland, the country with arguably the largest share of company-based VET at upper secondary level, adults with work experience of at least 5 years have had the option of accessing VET qualifications at the upper secondary level through recognition of prior learning for now more than 10 years. Still, today, only roughly 7 percent of adults (over 25 years) that achieve a VET qualification at this level make use of that option. All others either undergo a regular VET programme or at least the ordinary final exam. The paper discusses the reasons underlying this slow expansion of RPL in Switzerland. Arguing from a historical-institutionalist perspective, the paper shows how the institutional framework of mainly company-based Swiss VET and the underlying actor coalition pose substantial barriers to the expansion of RPL. An analysis of diverging trajectories in different parts of the country furthermore provide evidence on supporting factors that, nevertheless, enable the expansion of RPL.

Keywords: VET for adults; recognition of prior learning; modular approaches to VET

Bibliographical notes:

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Conceptualizing skill formation systems in three African countries

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Abstract: We present initial research into skill formation systems in three African countries—Ghana, Ethiopia, and South Africa, attempting to analyse how skill formation systems are shaped by, and shape, the societies and economies in which they exist. This includes factors internal to education and training systems as well as factors such as the relative availability of different types of qualified workers and the structure of the labour market. Our initial analysis, based on analysis of desktop data, draws on a distinction between the screening and developmental roles of education, and argues that the small number of good well-paying protected jobs available in these economies seems to aggravate the ways in which education is used for screening (gaining access to a good job or place at university), which then undermines the developmental roles of education (learning). The tiny size of the formal and industrial sectors and the small number of good jobs, as well as the extreme difference between options inside and outside of these sectors, and the desirability of getting a job outside of the country, make ‘screening’ dominate the functioning of education and training. Our current research is attempting to use the ‘systems of provision’ approach to explore how education provision is distributed and who accesses what, and the nature and influence of the three national contexts.

Keywords: skill formation systems, TVET systems, labour markets,

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Yael Shalem is Associate Professor of Education at the University of the Witwatersrand (Wits), South Africa. Her research interests include professional knowledge, curriculum, teacher education and teacher work. Together with Prof Shirley Pendlebury, she edited *Retrieving teaching: Critical issues in curriculum pedagogy and learning*, which was written in memory of Prof Wally Morrow, the founder of educational theory in South Africa. Her forthcoming book, co-edited with Stephanie Allais, *Knowledge, Curriculum, and Preparation for Work*, is published by Brill Sense.

**PAPER SESSION 13: CURRICULUM AND AND THE DISCIPLINE OF
EDUCATION**

Current research into educating for vocational excellence: a review

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Abstract: This presentation reviews current research into educating for vocational excellence. It focuses on a neo-Aristotelian approach to the concept of excellence which characterizes it as a combination of practical wisdom and virtues, sometimes with further additions. The review identifies three major trends in this research: one focusing on establishing conceptual frameworks for cultivating vocational excellence, one focusing on the development of virtues in practice, and the final one developing out of a narrative approach to practical wisdom and excellence. It identifies possibilities for more systematic combinations of these different approaches. The lack of more systematic research in the field is also discussed, especially regarding comparative and evaluative inquiries, the exception being, perhaps, the field of narrative medicine. The conclusion is that the research field is comparatively young, most work being post 2000, but that there has been significant growth since then. The review lays a foundation for both future inquiry and practice development to proceed with greater self-awareness and understanding of the potentials inherent in the excellence aspect of vocational education and training.

Keywords: vocational excellence, practice, practical wisdom, praxis, virtue ethics.

Bibliographical notes:

Dr Ruhi Tyson is lecturer at the Department of Education at the University of Stockholm, Country as well as at the Waldorf University College. His research interests focus on vocational Bildung and practical wisdom as well as narrative and didactical studies. He is currently writing an introductory book on educating for Bildung and practical wisdom from a didactical and narrative perspective.

Less time for vocational content in Upper secondary VET since the Swedish curriculum reform 1994?

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Abstract: In 1994 a new curriculum for Swedish upper secondary school was launched that prolonged all vocational programmes from two to three years. Still, vocational teachers expressed a concern that they had less time for vocational subjects than before the reform, arguing that the implementation of general subjects was the reason for this. The issue of this paper is to compare the three Swedish national curricula and for upper secondary vocational education, from 1970, 1994 and 2011, in order to describe the amount and proportion of time allocated to vocational subjects for two programmes. A further issue is to contribute with analyses of local conditions for realising vocational subjects in two schools. Except for the curricula and accompanying national guidelines for each of these, data from a previous project will be analysed in order to identify how the schools organised for the vocational subjects as well as teachers' collaboration with local working life. The vocational programmes in focus are related to textile work and carpentry. Both have change over the decades concerned, as have the conditions for them – in school as well as in relation to collaboration with workplaces. The consequences of changes for VET-students' vocational knowing as well as for VET-teachers' work are discussed.

Keywords: Vocational education, Curricular changes, Vocational subjects, National and local conditions

Bibliographical notes:

Dr Viveca Lindberg is an associate professor at the Department of Education and Special Education at the University of Gothenburg, Sweden. Her research interests focus on vocational knowing as practices in VET, be it in school or at work, as well as how historically developed traditions and societal changes over time contribute to changing both the content of vocational knowing as well as educational practices.

The Academic Professionalization of Business Education as a Science – A Collective Biographical and Network-Analytical Study of Discipline Formation in the German-speaking Area in the 20th Century

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Abstract: As a result of an analysis of the sociology of vocational and business education (resp. VET in the German-speaking area) as science, Reinisch (2009) found that it had already reached the stage of "established science" decades ago (Clark, 1972, 1974). Furthermore he states it is currently a 'normal science' (Kuhn, 1962, 2014). Since it is a part of normal science to ascertain its origins, he sees a significant need for research on the history of vocational and business education (Reinisch 2009, 2010).

The process of the formation and the establishment of (vocational and) business education as a science or as a partial discipline of educational science is traditionally described in the context of the setting-up of teacher training courses for vocational education in higher education institutions during the transition from the 19th to 20th centuries (Pleiß, 1973, Czycholl, 1974, Zabeck, 2009, 520-534, Reinisch, 2010, 181 ff.). Consequently, the process of institutionalization or professionalization is primarily characterized as being externally induced. Other relevant prospects and explanatory approaches are rare, especially internal scientific processes, which are taking the social organization and the individuals into account (Kipp & Miller-Kipp, 1994, Reinisch, 2009, 2010).

The presentation focuses on the internal process of the academic formation and establishment of (vocational and) *business education* as a science or as partial discipline(s) of educational science in the 20th century. Starting with theories of science (e.g. Stichweh, 2013; Ambrose, 2010; Clark 1972, 1974) in consideration of the establishment thesis of Reinisch (2009, 2010) and the generation thesis of Zabeck (2006), the study will contribute to a deeper understanding of the formation and establishment of VET as a science in the German-speaking area.

For this purpose the professors, as well as their generational relations are considered. The methodological access is achieved through a collective-biographical-quantitative approach (Schröder, 2011) by means of network analysis with the application software NetDraw (Stegbauer & Rausch, 2013).

Keywords: History of VET, esp. establishment of business education, collective biographical, network analysis

Bibliographical notes:

Dr. rer. pol. Mathias Götzl is a junior professor at the Institute of Vocational Education of the University of Rostock. His research interests focus on vocational and business education for students with special needs, student-oriented vocational and business didactics, teacher education research, curriculum theory and historical vocational and business education in connection with science studies.

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PAPER SESSION 14: SOCIAL INCLUSION AND
CARRIER CHOICE

The role of Adult Education in social inclusion of young adults: insights from the Horizon 2020 project (EduMAP)

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Abstract: The proposed paper focuses on the role of adult education (AE) as a means to facilitate active citizenship for the inclusion of young adults who are at risk of social exclusion. It presents the work in progress of the Horizon 2020 project, entitled ‘Adult Education as a Means to Active Participatory Citizenship (EduMAP)’. Within the project, the concept of active citizenship (AC) is considered to provide a better understanding of social inclusion and participation of vulnerable young people in the society, where AC is seen as related to social, political or economic dimensions of participation and engagement. Research indicates, that engaging vulnerable young people through adult education has been strongly related to addressing the specific needs and requirements that would facilitate their participation in the social, economic and civic/political life in their country contexts. The paper is specifically focusing on the key conclusions from the desk research mapping the state of the art of the European adult education policies and practices targeted at young adults in vulnerable positions in societies, and reflecting on emerging findings from the ongoing empirical research. This paper will provide insight from two case studies undertaken in England and Scotland specifically discussing, alternative and tailored educational provisions and lifelong learning opportunities for young adults at risk of social exclusion. The paper aims to consider both the project’s findings and the wider social issues related to the topic of social inclusion.

Keywords: adult education, active citizenship, inclusion

Bibliographical notes:

Dr Natasha Kersh is an academic at the Department of Education, Practice and Society, UCL Institute of Education, University of London. Her research interests and publications relate to the study of workplace learning in the UK and international contexts as well as comparative education, lifelong learning, VET and adult learning.

Dr Andrea Laczik works as a Research and Policy manager at the Edge Foundation and teaches at the University of Oxford. Andrea has 20 years of research experience. Her research interests include VET, apprenticeships, employer engagement, alternative programmes to support disadvantaged young people. She is also interested in comparative and international education especially in VET developments in East European countries.

Dropout prevention from different learning spaces. A social discussion experience.

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Abstract: In 2016, 26.8% of young people between 18 and 24 left the education system in the Balearic Islands before they obtained a high school diploma (Advanced Secondary Education Qualification or Intermediate VET) without transferring to another elementary or secondary school. Strong evidences stress that dropout requires joint actions from formal and non-formal education, especially from the community.

This paper presents an experience of social reflection on education dropout of young people as a result of a collective action between the European Anti-Poverty Network of the Balearic Islands (<http://xarxainclusio.org>); the “Cooperativa Jovent” (<http://jovent.es>) focused on the

social and labor market integration of young people; and the research group “Education and Citizenship” (<http://eic.uib.eu>) of the University of the Balearic Islands, that studies vocational training success and dropout pathways of young people in Spain.

An approach from diverse learning spaces, together with the heterogeneity of the participants (vocational training instructors, community workers, political representatives, public administration professionals, university researchers and, key for this social discussion, deputies from all parliamentary groups), and with the debate process, the experience generated an extraordinary and powerful shared reflection. This paper describes the meeting, and most important, its conclusions, aimed to improve VET policies in the Balearic Islands.

Keywords: Dropout, vocational education and training (VET), community work,

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Dra. Nuria Álvarez is member of the research group “Education at Citizenship” (<http://eic.uib.eu>) at the University of the Balearic Islands, Spain). Her research interests focus on the construction of otherness, racism, ethnocentrism, prejudice and stereotype.

What role should Universities play in career guidance for preparing students for successful studies and for work? Case study of the IDEFI “Emotional Capital” and Guidance programm for freshmen students in Sciences of education of the university Montpellier 3 in France

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Abstract: Since decades, universities have faced dropouts or low rate of success among freshmen students. Thus, they have been required to prepare students to be committed with their studies and to career guidance to their students. Some of those responsibilities have inevitably landed at the door of academic staff. At the university of Montpellier 3, the special program IDEFI, based on innovative training programs, has been set up to answer this concerns. In this communication, we will present this program addressed to future teachers and educators enrolled in sciences of education based on active pedagogy. We will underline the transversal and transferable competences that this program develops helping at developing students’ resilience. Despite, academic staff wasn’t be expected to be careers guidance professionals, the program IDEFI has been designed in an active way according Dewey approach that it helps young people to explore the opportunities open to them and make purposeful steps towards their future by developing their emotional capital. In this IDEFI program, this challenge has been seen as an integral part of teaching, something that is exciting and helps unlock students’ potential by developing their transversal and transferable competencies.

Keywords: Emotional capital, Please choose 3–5 keywords.

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Dr. Benedicte Gendron is a professor at the Department of Education at the University of Montpellier 3, France. Her research interests focus on vocational education, active pedagogy, transferable and transversal skills.

PANEL DISCUSSION: EFFECTIVENESS AND QUALITY IN VET

Introduction addresses by:

Professor Ramlee Mustapha Sultan Idris Education University, Malaysia: The Effectiveness of TVET and the Malaysian Skills Qualification Framework (MSQF) in Producing K-Workers: Practitioners Perspective

Professor Michael Gessler, University of Bremen, Germany: Establishment of a national VET system in Namibia: Progress and Pitfalls

ABSTRACTS

The Effectiveness of TVET and the Malaysian Skills Qualification Framework (MSQF) in Producing K-Workers: Practitioners Perspective

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Abstract: The present Malaysian Skills Qualification Framework (MSQF) was formulated to classify skills qualification that indicates the level of capabilities on competency descriptors. MSQF currently enforces competence-based training approach in skills training which is in line with the National Occupational Skills Standard (NOSS). With the establishment of the National Dual Training System (NDTS) in 2005, the existing MSQF may need to be revamped due to new requirements resulting from new orientation towards work process. Thus, the purpose of the study was to analyse the effectiveness of the existing MSQF for automotive technicians to qualify as them as knowledge workers (K-workers). The study adopted the interpretive qualitative research design which was premised on the phenomenological method by using interview and observation. For the purpose of data collection, participants selected for this study were those who have more than five years of experience in automotive industry and understand the NOSS-based training and the NDTS. The qualitative data analysis forms the themes and the categories that are useful to develop a new framework to show the relationships that exist among the categories under study. This study found that NOSS standards qualify students with specialized skills but restrict them in carrying out other duties. Thus, a new framework should emphasise on work processes in fulfilling the rapid changing industrial needs due to technological and work organization changes. Moreover, the work process should build upon the business process orientation of the industry and should focus on whole work processes rather than specific or functional units only. Finally, based on the research data, two descriptors, i.e., professional competence (knowledge and skills) and personal competence (social skills and autonomy) are considered important for automotive technicians to be K-workers. Thus, it is recommended that the new

MSQF should be put in place in order to produce quality K-workers for the automotive industry in Malaysia.

Keywords: Malaysian Skills Qualification Framework, National Occupational Skills Standard, National Dual Training System, automotive technicians, Malaysia

Establishment of a national VET system in Namibia: Progress and Pitfalls

Authors

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Abstract:

After independence in 1990, Namibia began to build an education system accessible for all. Vocational training system is today dominated by the South African imported Competency Based Education and Training (CBET) approach. The policy framework and development stages of setting up the system, with the establishment of national authorities (National Training Authority, National Qualification Authority) and national instruments (Namibia Qualification Framework, Unit Standards), will be described first. Subsequently, the actual status and difficulties associated with the established CBET approach will be discussed. The data are based on interviews with various key stakeholders in Namibia (including COO NTA, CEO NQA, Permanent Secretary of the Ministry, CEO of the Employer Federation, Teachers of Vocational Schools, representatives of the Namibia University of Science and Technology), which took place in February 2018. Based on the analysis, recommendations for action are formulated in five areas: (1) cooperation between social partners, business organizations and the state, (2) development and acceptance of national standards, (3) learning in the work process, (4) skilled VET staff, (5) institutionalized VET research and VET guidance.