

PROGRAMME

VOCATIONAL EDUCATION AND TRAINING RESEARCH: SUPPORTING TEACHERS, PRACTITIONERS AND POLICY MAKERS

3rd Congress on Research in Vocational Education and Training, SFIVET Swiss Federal Institute for Vocational Education and Training, Bern/Zollikofen, Switzerland, March 13 – 15, 2013



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WELCOME ADDRESS

For the third time since 2009, the Swiss Federal Institute for Vocational Education and Training SFIVET invites researchers to exchange vocational education and training (VET) research findings and reflect on VET issues.

In general, VET research can be structured as follows: a) knowledge is created for teaching and learning purposes or b) knowledge is produced with regards to the overall VET sector. Examples of type a) questions include topics such as the definition of skills and competencies for a given occupation; the teaching and learning concepts that enable one to acquire these skills and competencies; and the specificities of the cooperation between different learning locations. Knowledge production for type b) questions is more oriented towards VET governance and deals with topics such as the individual choice of education and training programmes; the reasons that motivate companies to offer apprenticeships; social integration and exclusion processes within the VET sector; reasons for youth unemployment and skills shortage and so on.

To help teachers, practitioners and policy makers to enhance the quality and provision of VET, especially important is the aspect of the systematic, methodologically controlled and reflexive production and interpretation of knowledge in contrast to non-reflexive everyday knowledge or unrepresentative personal experience. However, systematic knowledge production is just one part of the story. Another question is how the findings can be successfully transferred to practice in schools, companies, public administration and policy in order to have an impact.

Devoted to the theme “VET Research: Supporting Teachers, Practitioners and Policy Makers”, the congress seeks to make a contribution to these topics and provide an overview of VET research activities in Switzerland and other countries. It is also intended to facilitate academic exchanges between leading institutions and to present the latest international research findings. The 18 paper sessions are framed by four keynote addresses given by internationally distinguished speakers.

I hope that you will all gain fresh insights into VET research, take part in inspiring discussions, and enjoy your stay in Bern!

Prof. Dr. Carmen Baumeler
Chair of the Congress
Head of Research & Development, SFIVET

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OPENING ADDRESS

Dr. Mauro Dell’Ambrogio, Head of the State Secretariat for Education, Research and Innovation SERI

KEYNOTE ADDRESSES

Prof. Dr. Heike Solga, Social Science Center Berlin WZB, Germany

Improving access to apprenticeships for low-achieving youth

Low-achieving youth are increasingly disadvantaged in terms of access to vocational education and training (VET) in Germany. Their lower chances of obtaining a trainee are explained by the claim that an increasing number of them are “not mature enough for VET”. These young people would not (yet) meet the training requirements – so the criticism. Yet, what do empirical analyses show about whether such immaturity can indeed serve as an appropriate explanation for excluding less-educated youth from apprenticeships? This presentation answers this question by using a unique set of German longitudinal data on school leavers (after grade 9) who attended a lower secondary school (Hauptschule). It will provide information on differences within this group of low-achieving school leavers and will ask who among these disadvantaged youth is successful in entering vocational training in Germany, and why. Central results are: About 45 percent of the school leavers had successfully entered into an apprenticeship within three months. School grades in German and Mathematics were less important than grades for work attitudes and (extended) firm-internships while still at school.

Prof. Dr. Jeroen J. G. van Merriënboer, Maastricht University, The Netherlands

A design perspective on VET: How development portfolios support teachers and learners

The main aim of this presentation is to discuss guidelines for organizing VET in such a way that both the learning of domain-specific skills and self-directed learning skills are promoted. In order to reach this goal, learners must work on professional tasks that show sufficient variability of practice, gradually increase in complexity, and show a decrease in available support and guidance. Moreover, they must learn to self-assess performance, identify points of improvement, and select future tasks that are suitable to work on these points of improvement. Thus, learners should not only develop professional skills but also sustainable self-directed learning skills that enable them to continue learning throughout their career. I will discuss findings from a series of studies investigating how electronic development portfolios can help both learners and teachers who fulfill a coaching role to assess

learning from previous tasks and select optimal future tasks for learning. The studies concern the nature of coaching, the formulation of assessment criteria, and self-coaching protocols. The overall finding is that development portfolios can help to develop both domain-specific and self-directed learning skills. Coaching, however, is critical and the responsibility over the planning of future learning activities should gradually move from the coach to the learner.

Prof. Dr. Richard E. Shavelson, School of Education, Stanford University, USA

Reflections on the measurement of competence

An important aim of vocational education and training is to prepare citizens to enter the workforce competent to perform at an entry level. But what do we mean by “competence?” And how might we go about measuring competence? In the talk, a possible definition of competence is proposed. Then two alternative approaches to its measurement are presented: a psychometric approach and a “criterion-sampling” approach. The underlying assumptions of each approach are enumerated with the conclusion that the criterion-sampling approach holds more promise for measuring competence in VET validly. The criterion-sampling approach is then illustrated with two examples: The Collegiate Learning Assessment and a pilot Assessment of Business-Planning Competence. Reliability and validity evidence is presented showing that this performance-assessment approach to measuring competence meets measurement standards, is practically feasible within reasonable cost bounds.

Prof. Dr. Robert B. Schwartz, Graduate School of Education, Harvard University, USA

Pathways to prosperity: From report to action

In February 2011 two colleagues and I released a report called Pathways to Prosperity: Meeting the Challenge of Preparing Young Americans for the 21st Century. In the report we argued that for the past 20 years the US has been unduly focused on preparing all young people for higher education, neglecting to build a strong vocational system. Consequently, only half the youth population manages to earn a college or university degree or postsecondary occupational certificate by the age of 25, leaving the other half of young people without the skills and credentials needed to thrive in our increasingly challenging economy. We cite OECD’s Learning for Jobs study as evidence that those European systems that have invested in building and maintaining strong VET programs not only have much lower youth unemployment rates than the US but also have much stronger manufacturing sectors. Two years after the report’s release we are now working with a network of nine US states to help them act on the findings and analysis of our report. My presentation will focus on the challenges of trying to adapt the strengths of European-style VET systems to the US political and educational context.

PROGRAMME OVERVIEW

Wednesday 13 rd March	Thursday 14 th March			Friday 15 th March				
	08:45 - 10:00 Paper Sessions			09:15 - 10:30 Paper Sessions				
	3A (S005)	3B (Aula)	3C (214)	6A (Aula)	6B (214)	6C (S005)		
	Coffee Break (Piazza)			Coffee Break (Piazza)				
	10:30 - 11:45 Paper Sessions			11:00 – 11:20 Best Paper Award (Aula)				
11:30 - 13:30 Registration & Lunch (Piazza)	4A (Aula)	4B (214)	4C (S005)	11:20 - 12:20 Keynote: Robert B. Schwartz (Aula)				
	11:45 - 13:15 Lunch (Piazza)			12:20 - 14:00 Lunch (Mensa)				
13:30 – 14:00 Welcome Address: Carmen Baumeler & Dalia Schipper Opening Address: Mauro Dell’Ambrogio (Aula)	13:15-14:15 Keynote: Jeroen J.G. van Merriënboer (Aula)							
14:00 - 15:00 Keynote: Heike Solga (Aula)	Coffee Break (Piazza)							
Coffee Break (Piazza)	14:45 - 16:00 Paper Sessions							
15:30 - 16:45 Paper Sessions	5A (214)	5B (S005)	5C (Aula)					
1A (214)	1B (Aula)	1C (S005)	Coffee Break (Piazza)					
Coffee Break (Piazza)	16:15 - 17:15 Keynote: Richard E. Shavelson (Aula)							
17:00 – 18:15 Paper Sessions	Coffee Break (Piazza)							
2A (S005)	2B (214)	2C (Aula)	18:00 - 19:00 Social Programme (Itten/Klee Exhibition, Kunstmuseum Bern)					
	19:30-22:30 Congress Dinner (Restaurant Rosengarten, Bern)							

PROGRAMME OF WEDNESDAY, 13TH MARCH 2013

11:30am - 1:30pm	Registration & Lunch Location: Piazza		
1:30pm - 1:45pm	Welcome Address: Prof. Dr. Carmen Baumeler und Dr. Dalia Schipper (Swiss Federal Institute of Vocational Education and Training SFIVET) Location: Aula		
1:45pm - 2:00pm	Opening: Dr. Mauro Dell'Ambrogio (Head of the State Secretariat for Education, Research and Innovation SERI) Location: Aula		
2:00pm - 3:00pm	Keynote 1: Prof. Dr. Heike Solga (Wissenschaftszentrum Berlin für Sozialforschung WZB, Germany) Location: Aula Improving access to apprenticeships for low-achieving youth		
3:00pm - 3:30pm	Coffee Break Location: Piazza		
3:30pm - 4:45pm	<p>Paper Session 1A: Economic Perspectives on Initial and Continuous Education and Training Location: 214</p> <p>Productivity of apprentices: The impact of school-developed key competencies JANSEN, Anika; PFEIFER, Harald</p> <p>Employer-financed training in Switzerland: Estimation of the causal wage effect with quasi-randomization EYMANN, Annina</p> <p>Turnover and employer-provided CVT in German firms MUELLER, Normann</p>	<p>Paper Session 1B: VET Teaching in Practice Location: Aula</p> <p>Didactics at work: The analysis of teachers' practice in VET schools in Italy TACCONI, Giuseppe</p> <p>Individual and contextual facilitators of vocational teachers' innovative work behaviour MESSMANN, Gerhard; MULDER, Regina H.</p> <p>VET teachers' motivation explains their teaching practices: Motives to become a VET teacher, sense of responsibility, and classroom management practices GIRARDET, Céline; BERGER, Jean-Louis; APREA, Carmela</p>	<p>Paper Session 1C: Swiss Two-Year Apprenticeships Location: S005</p> <p>Encouraging trainees in industry courses to improve their work-related learning and problem solving strategies KIPFER, Nadine; SCHARNHORST, Ursula; NIEDERBACHER, Edith</p> <p>Successful entrance into labor market after a two-year basic training course with Swiss Basic Federal VET Certificate: The role of the training situation, personality and support HOFMANN, Claudia; HAEFELI, Kurt</p> <p>Longterm employability of young professionals with Swiss Federal VET Certificate. Occupational careers after a two-year apprenticeship KAMMERMANN, Marlise; BALZER, Lars; HAETTICH, Achim</p>

4:45pm	Coffee Break		
-	Location: Piazza		
5:00pm			
5:00pm	Paper Session 2A: Supporting VET Teachers and Trainers	Paper Session 2B: Comparison of VET Systems	Paper Session 2C: Career Decisions and Development/Measurement of Competences
-	Location: S005	Location: 214	Location: Aula
6:15pm	<p>Developing guidance skills amongst vocational trainers: A research-based tool for expanding workplace learning FILLIETTAZ, Laurent</p> <hr/> <p>Paths for supporting VET teaching through hypervideos NGUYEN, Anh Thu; CATTANEO, Alberto; APREA, Carmela</p> <hr/> <p>Evaluation's role in enhancing organizational development by supporting teachers scientifically SCHNOZ-SCHMIED, Tanja Patrizia; BALZER, Lars</p>	<p>Standardization of vocational education and training within Europe – Strategies, consequences, opportunities and threats BACHER, Tanja</p> <hr/> <p>National Reforms in a Global Context: A Comparison of Finnish and Swiss VET STOLZ, Stefanie</p> <hr/> <p>Workplace training incidence and the need for skills. Germany and Britain in comparison ICARDI, Rossella</p>	<p>Determinants of career decisions in compulsory school, apprenticeship and young adulthood: First results NEUENSCHWANDER, Markus P.; HERMANN, Marcia</p> <hr/> <p>An explanatory model for the development of professional competences in information technology specialists DIETZEN, Agnes; LAZAR, Andreas C.; NICKOLAUS, Reinhold; SCHNITZLER, Annalisa; VELTEN, Stefanie</p> <hr/> <p>Challenges and preliminary results in cross-national adaption of a computer simulation for measuring competences in the commercial field HOLTSCH, Doreen; MENTELE, Silja; EBERLE, Franz</p>

PROGRAMME OF THURSDAY, 14TH MARCH 2013

<p>8:45am - 10:00am</p>	<p>Paper Session 3A: Training Firms Location: S005</p> <p>More apprenticeship training places due to public procurement policy STRUPLER LEISER, Mirjam; WOLTER, Stefan C.</p> <hr/> <p>The costs of recruiting apprentices: Evidence from German firm-level data PFEIFER, Harald; MUEHLEMANN, Samuel; WENZELMANN, Felix</p>	<p>Paper Session 3B: Youth with Migration Background in VET Location: Aula</p> <p>Challenges of migrant girls in Swiss education LENGGENHAGER, Jelena</p> <hr/> <p>Migrant integration in a VET-oriented schooling system: A ladder hard to climb LATINA, Joelle; RAMIREZ, José V.</p> <hr/> <p>Types of professionally successful migrants STAMM, Margrit</p>	<p>Paper Session 3C: Computer-Assisted Teaching and Learning Location: 214</p> <p>Socially shared metacognition with apprentice cooks in Swiss VET MOTTA, Elisa; CATTANEO, Alberto</p> <hr/> <p>A study about the development of spatial reasoning skills in carpenters' training ARN, Christoph; CUENDET, Sébastien; BUMBACHER, Engin; JERMANN, Patrick; DILLENBOURG, Pierre</p> <hr/> <p>Moving beyond personal experience through computer-supported collaborative writing in vocational education ORTOLEVA, Giulia; SCHNEIDER, Daniel; BETRANCOURT, Mireille</p>
<p>10:00am - 10:30am</p>	<p>Coffee Break Location: Piazza</p>		
<p>10:30am - 11:45am</p>	<p>Paper Session 4A: Career Aspirations and Paths Location: Aula</p> <p>Learning for career and labour market transitions – Individual biographies BARABASCH, Antje; RUSSO, Giovanni</p> <hr/> <p>Long term effects of social background, gender and personality on career development and social status:</p>	<p>Paper Session 4B: Professional Socialisation and Vocational Selections Location: 214</p> <p>Determinants of professional socialization in apprenticeships NEUENSCHWANDER, Markus P.; GERBER, Michelle</p>	<p>Paper Session 4C: Basic and Intercultural Competences Location: S005</p> <p>How to find out what kind of numeracy is required for a certain workplace? Three case studies KAISER, Hansruedi</p> <hr/> <p>“I-VET”: Fostering intercultural competences of VET teachers and trainers</p>

	<p>Development from adolescence to middle adulthood HAEFELI, Kurt; SCHELLENBERG, Claudia; SCHMAEH, Nicolas; HAETTICH, Achim</p> <hr/> <p>The impact of labor market entry conditions on initial job assignment and wages BRUNNER, Beatrice; KUHN, Andreas</p>	<p>Cost-benefit estimation when choosing an apprenticeship offer. Evidence from a choice experiment GLAUSER, David; JÄPEL, Franziska; BECKER, Rolf</p> <hr/> <p>Returns from apprenticeship training in Germany – Individual decisions, institutional arrangements and the stratification process – Alain Kerckhoff (1995) revisited WÖLFEL, Oliver; DIETRICH, Hans</p>	<p>teachers and trainers COMI, Giorgio; BIGNAMI, Filippo; BEDNARZ, Furio; ONORATI, Maria Giovanna</p>
<p>11:45am - 1:15pm</p>	<p>Lunch Location: Piazza</p>		
<p>1:15pm - 2:15pm</p>	<p>Keynote 2: Prof. Dr. Jeroen J.G. van Merriënboer (Institute for Education, Maastricht University, the Netherlands) Location: Aula A design perspective on VET: How development portfolios support teachers and learners</p>		
<p>2:15pm - 2:45pm</p>	<p>Coffee Break Location: Piazza</p>		
<p>2:45pm - 4:00pm</p>	<p>Paper Session 5A: Comparative Analyses of Apprenticeships Location: 214</p> <p>Vocational education and training and its impact on productivity - A three-country analysis CÖRVERS, Frank; HEIJKE, Hans; KRIECHEL, Ben; PFEIFER, Harald</p> <hr/> <p>VET system output versus labour market demands – Induction,</p>	<p>Paper Session 5B: VET Programmes Location: S005</p> <p>Promoting change through on-the-job training: A tool for learning and doing AJELLO, Annamaria; DI MARCO, Claudia</p> <hr/> <p>Designing the content for vocational education programs: Cooperation assessment between teachers and employers ZAŁAISKALNE, Anita</p>	<p>Paper Session 5C: Training Conditions and Dropouts Location: Aula</p> <p>Vocational training conditions and training satisfaction: Do gender and migration background matter? HUPKA-BRUNNER, Sandra; KRIESI, Irene</p> <hr/> <p>Exploring the company effect on VET-dropouts in Swiss dual system: Premature</p>

	<p>recruitment and training practices as indicators to address the “matching-problem” WOLFGARTEN, Tobias; GEIBEN, Marthe; GROLLMANN, Phillipp</p> <hr/> <p>The effect of labor market regulations on the benefits of apprenticeship training STRUPLER LEISER, Mirjam; WOLTER, Stefan C.; JANSEN, Anika; WENZELMANN, Felix</p>	<p>Conceptions of financial literacy in Swiss VET curricula LEUMANN, Seraina; APREA, Carmela; WUTTKE, Eveline</p>	<p>apprenticeship contract terminations and the role of the training company FORSBLOM, Lara; NEGRINI, Lucio; SCHUMANN, Stephan</p> <hr/> <p>Doing a qualitative research on the transition process: A way to support VET actors LAMAMRA, Nadia; DUC, Barbara</p>
<p>4:00pm - 4:15pm</p>	<p>Coffee Break Location: Piazza</p>		
<p>4:15pm - 5:15pm</p>	<p>Keynote 3: Prof. Dr. Richard E. Shavelson (School of Education, Stanford University, USA) Location: Aula Reflections on the measurement of competence</p>		
<p>6:00pm - 7:00pm</p>	<p>Social Programme Guided tour: "Itten/Klee Exhibition", Kunstmuseum Bern</p>		
<p>7:30pm - 10:30pm</p>	<p>Congress Dinner Restaurant Rosengarten, Bern</p>		

PROGRAMME OF FRIDAY, 15TH MARCH 2013

<p>9:15am - 10:30am</p>	<p>Paper Session 6A: Educational Choices and Outcomes Location: Aula</p> <p>The impact of distance deterrence on the choice of field of study in vocational education in the Netherlands BERTRAND-CLOODT, Daniëlle; COERVERS, Frank; HEIJKE, Hans; VAN THOR, Jesper</p> <hr/> <p>Wage expectations, preferences and career intentions of healthcare students SCHWERI, Juerg; TREDE, Ines</p> <hr/> <p>The impact of firm's training investment on labour market outcomes DIETRICH, Hans; PFEIFER, Harald; WENZELMANN, Felix</p>	<p>Paper Session 6B: Learning in VET Location: 214</p> <p>Which preconditions foster apprentices' intrinsic learning motivation in in-company training and in vocational school? Findings of a longitudinal study with Swiss apprentices KRATTENMACHER, Samuel; SALZMANN GISCHIG, Patrizia; BERWEGER, Simone</p> <hr/> <p>Procedural learning in VET through written identification of errors BOLDRINI, Elena; CATTANEO, Alberto</p> <hr/> <p>Building interactional competences in vocational education and training (VET) programs: The case of early childhood educators DURAND, Isabelle; LOSA, Stefano; FILLIETTAZ, Laurent</p>	<p>Paper Session 6C: Institutional Partnerships in VET Location: S005</p> <p>History matters. The importance of a historical perspective to understand the structures of the VET systems BONOLI, Lorenzo</p> <hr/> <p>Individual conceptions of connectivity: How Swiss teachers, trainers and apprentices perceive vocational learning across learning sites SAPPA, Viviana; APREA, Carmela</p> <hr/> <p>Training networks in VET – Reasons for training companies to participate LEEMANN, Regula Julia; IMDORF, Christian; SAGELSDORFF, Rebekka; BIRR, Lorraine; SEITERLE, Nicolette; DARIN, Sandra</p>
<p>10:30am - 11:00am</p>	<p>Coffee Break Location: Piazza</p>		
<p>11:00am - 11:20am</p>	<p>Best Paper Award Location: Aula</p>		
<p>11:20am - 12:20pm</p>	<p>Keynote 4: Prof. Dr. Robert B. Schwartz (Graduate School of Education, Harvard University, USA) Location: Aula Pathways to prosperity: From report to action</p>		
<p>12:20pm - 2:00pm</p>	<p>Lunch Location: Mensa</p>		

ABSTRACTS OF PAPERS

Paper Session 1A: Economic Perspectives on Initial and Continuous Education and Training

Time: Wednesday, 13/Mar/2013: 3:30pm - 4:45pm, Location: 214

Paper Session 1A: 1

Productivity of apprentices: The impact of school-developed key competencies

Anika JANSEN, Harald PFEIFER

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

In the present paper we analyze the impact of different key competencies on the trainee's productivity during the apprenticeship period. We use firm-level data from the BIBB-Cost-Benefit-Survey 2007 on apprentices' school competencies and their relative productivity compared to a skilled worker. We distinguish between verbal and written communication skills, basic mathematic skills, information technology competencies and problem-solving skills. The data set enables us to take into account an array of soft skills and social competencies of the apprentice as well as qualitative aspects of the firm's training strategy. Our results suggest that verbal and written communication skills and problem-solving skills have a significant impact on the trainee's productivity. In contrast, mathematical and IT skills do not seem to be related to the trainee's productivity. Moreover, the amount of time the trainee is allocated to skilled productive work is also associated to the level of productivity.

Paper Session 1A: 2

Employer-financed training in Switzerland: Estimation of the causal wage effect with quasi-randomization

Annina EYMANN

Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

Switzerland has a very large share of workers following a continuous training. Given the potential selection and endogeneity problem of training analysis, advanced econometrical methods are needed to identify causal wage effects. In this paper, I focus on the wage effect of employer-financed training. Leuven and Oosterbeek (2008) suggest a convincing approach to control for the potential endogeneity of training decisions. Instead of the commonly used control group of workers without any training participation, a so-called quasi-randomized control group is used. This control group contains only individuals who wanted to participate in training, but could not due to a random event in their lives. This approach leads to a situation that mirrors an experiment. In combination with the panel structure of the data this allows the identification of a causal wage effect. The Swiss Labor Force Survey

(SLFS) offers a special module with regard to training in the year 2003. I use a balanced panel covering three years of information to measure the causal effect of employer-financed training. Controlling for endogeneity the causal effect for employer-financed training is no longer statistically significant. This result holds for a one- and a two-year comparison.

Paper Session 1A: 3

Turnover and employer-provided CVT in German firms

Normann MUELLER

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

'Non-excludability' of skills is suspected to give rise to poaching externalities and cause under-investment in training (STEVENS 1994/1996; ACEMOGLU/PISCHKE 1997/1999a/1999b; LEUVEN 2005). To substantiate this hypothesis, this paper investigates the effect of labor turnover on firms' dedication to CVT. For this purpose, new survey data on firms in Germany (BIBB-FluCT data) providing details on labor turnover and employers' CVT spending is exploited. Additional information on the geographic location of firms helps safeguard against causality issues. Standard regression analyses point at a negative correlation between turnover and CVT incidence as well as CVT spending. But this effect is small and fragile – it vanishes in an instrumental variable approach, suggesting that reversed causality may give rise to the standard regression results. After all, the analyses do not provide sufficient evidence to substantiate under-investment in CVT. In fact, payback clauses may help employers turn 'non-excludable' skills into part-time private goods. The analyses indicate that payback clauses go along with much higher employer spending on CVT.

Paper Session 1B: VET Teaching in Practice

Time: Wednesday, 13/Mar/2013: 3:30pm - 4:45pm, Location: Aula

Paper Session 1B: 1

Didactics at work: The analysis of teachers' practice in VET schools in Italy

Giuseppe TACCONI

University of Verona, Italy

This study explores the educational practices of about hundred Italian and Mathematics teachers from VET schools in Italy. The schools are located in 8 different Italian Regions. This research intends also to achieve beneficial changes in the practices it studies. The assumption is that research should lead to transformations rather than just to an increase in knowledge. Data were collected through individual and group interviews, and analysed using a hybrid of grounded theory and pheno-

menological method, and producing narratives. The results revealed a rich set of instructional strategies to share in a community of practice as well as the possibility to develop professional knowledge reflecting together about practice. So, this research finds a link with the research about teachers' training.

Paper Session 1B: 2

Individual and contextual facilitators of vocational teachers' innovative work behaviour

Gerhard MESSMANN, Regina H. MULDER

University of Regensburg, Germany

The aim of this study was to investigate facilitators of innovative work behaviour (IWB) in the context of vocational teachers' work. IWB encompasses all work activities employees such as vocational teachers contribute to the generation, promotion, and realization of ideas for change and improvement at work. Because of the benefits of innovations for organizations and employees, IWB plays a crucial role in organizational practice. Drawing on previous research on creative and innovative work behaviour and using the Theory of Planned Behaviour as theoretical basis, a model of individual and contextual facilitators of IWB was developed and tested empirically in a longitudinal study with N = 239 vocational teachers. Structural equation and path modelling was used for hypothesis testing. The study showed that vocational teachers' IWB is determined by perceptions of self-efficacy and impact, and the support for innovation provided by the supervisor and the work climate. Furthermore, the facilitative effect of social support was mediated by self-directed individual perceptions. Finally, the study provided convincing evidence for the pivotal role of intrinsic motivation as a key antecedent of vocational teachers' IWB and as an underlying explanatory mechanism for the facilitative effect of self-efficacy, impact, and supervisor support.

Paper Session 1B: 3

VET teachers' motivation explains their teaching practices: Motives to become a VET teacher, sense of responsibility, and classroom management practices

Céline GIRARDET, Jean-Louis BERGER, Carmela APREA

Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

Teachers' classroom management practices predict favorable or unfavorable student motivation (Deci, Schwartz, Sheinman, & Ryan, 1981). Hence, an important question concerns the factors which bring teachers to endorse certain classroom management practices. Research has shown that teachers' practices can be predicted by the motives to become teacher and teachers' sense of responsibility. The present study thus aims at examining the articulation of the motives to become teacher, teachers' sense of responsibility, and their approach to instruction for VET

teachers, a population for which these constructs have not been investigated yet. An adapted version of the FIT-Choice scale (Watt & Richardson, 2007), a translated version of the Teacher Responsibility Scale (Lauermaun & Karabenick, 2012), and a vignette instrument inspired by the Problem in School Questionnaire (Deci et al., 1981) were administered to 154 in-service VET teachers. Path analysis led to a model indicating that the key motive is intrinsic value, which predicts a sense of responsibility for the quality of teaching, itself explaining the classroom management practices. The more the teacher feels responsible for the quality of teaching, the more s/he will use favorable classroom management practices (autonomy-support and structure). As intrinsic value explains the responsibility for the quality of teaching, this motive indirectly predicts desirable practices. Implications for teacher education and research will be discussed.

Paper Session 1C: Swiss Two-Year Apprenticeships

Time: Wednesday, 13/Mar/2013: 3:30pm - 4:45pm, Location: S005

Paper Session 1C: 1

Encouraging trainees in industry courses to improve their work-related learning and problem solving strategies

Nadine KIPFER, Ursula SCHARNHORST, Edith NIEDERBACHER

Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

In Switzerland, two-year VET programmes with lower requirements are offered for trainees having limited academic skills so they may obtain a nationally recognized qualification at upper secondary level. Like all VET programmes they involve three training arrangements: training in a host company (apprenticeship), education at vocational school and industry courses.

To ensure the acquisition of the occupational competencies defined in the curricula of these programmes, it is necessary to strengthen the trainees' self-regulation (i.e. learning strategies and metacognitive knowledge) in all training arrangements. The design-based research project presented here was set up to gain insight into the prevalent teaching and learning practices in industry courses and to enrich them with training components to foster the trainees' self-regulation. At the outset, (1) exploratory field observations in industry courses revealed that the trainers did rarely encourage the trainees to develop their learning strategies and their metacognitive knowledge. This led us to (2) design corresponding training components with a group of trainers and to subsequently (3) evaluate the trainers' self-directed implementation of these components in their industry courses.

The presentation will focus on the third phase, and specifically on one of the key components called "group reflection moments". Examples will be provided to illustrate how trainers frame and moderate these "group reflection moments" to encourage the development of learning strategies and metacognitive knowledge of the trainees.

Paper Session 1C: 2

Successful entrance into labor market after a two-year basic training course with Swiss Basic Federal VET Certificate: The role of the training situation, personality and support

Claudia HOFMANN, Kurt HAEFELI

University of Applied Sciences of Special Needs Education, Switzerland

In Switzerland the old «VET elementary training» program was replaced by a two-year basic training program with a Federal VET Certificate which provides a greater standardization of training contents and should thus improve the employability of graduates and increase passage to further training. In a first longitudinal study (2005-2009) we investigated the vocational paths of learners in the sectors of gastronomy and retails (N=525). In a second study we included two other sectors, home economics and joinery (N=206). Each group was questioned three times: at the end of the training, one year later and again two years later.

Our first results showed that one year after their training 27% of the people are undertaking a further training, 43% are working in their learned occupation, 15% are doing another job and 15% are not working. One focus of our study is the question, which factors influence these decisions and pathways. Social-cognitive career theories (SCCT) are one approach trying to understand the processes through which people form interests, make choices, and achieve varying levels of professional success (Lent, Brown & Hackett, 2000), including factors such as self-efficacy, learning experiences and social support. Based on this we hypothesized that the situation at vocational training and school plays an important role for further career development. We suppose that different factors are important for different outcomes.

As first results of our ongoing analyses show, learning experiences at vocational schools are important for the chance to pass on to a further training. The question of having a job or having no job (or another job) is influenced by other factors, such as school background and health status (depression). Results of the ongoing analysis, including the third wave, will be presented at the VET-Congress. One special focus will be the role of social support in this context.

Paper Session 1C: 3

Longterm employability of young professionals with Swiss Federal VET Certificate. Occupational careers after a two-year apprenticeship

Marlise KAMMERMANN¹, Lars BALZER¹, Achim HAETTICH²

¹Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland;

²University of Applied Sciences of Special Needs Education, Switzerland

In Switzerland, the two-year apprenticeship with Federal VET Certificate was established in 2002. It is a low-threshold VET programme offering standardised vocational training, aiming at increasing the employability of low achieving youths.

It leads to a VET Certificate, which is different from the Federal VET Diploma obtained after a three- or four-year apprenticeship. Data of a Swiss longitudinal study including a sample of 169 trainees on a two-year training course in the retail sales and hotel sector are used to study the mid- to longterm success of the two-year apprenticeship. The findings confirm that the new apprenticeship offer suitable training, which fosters employability and upward mobility after graduation. Two and a half years after graduation, the majority of young professionals with Federal VET Certificate were in a secure occupational situation, i.e. had a paid job or were involved in further training. Their employment conditions were comparable to the conditions of young professionals with Federal VET Diploma in the same professional fields. The occupational path during the two and a half years following graduation however seemed to be rather instable, including fragmented pathways for almost half of the two-year apprenticeship graduates. Findings of a measurement point five years after graduation evaluate the graduates' longterm employability, focusing on their employment and/or further training conditions as well as on the satisfaction with their occupational career.

Paper Session 2A: Supporting VET Teachers and Trainers

Time: Wednesday, 13/Mar/2013: 5:00pm - 6:15pm, Location: S005

Paper Session 2A: 1

Developing guidance skills amongst vocational trainers: A research-based tool for expanding workplace learning

Laurent FILLIETTAZ

University of Geneva, Switzerland

Recent research in the field of workplace learning has stressed the importance of guidance and support in learning from and for practice. Novice workers do not learn just by doing the job; they do so only when specific resources are afforded to them, and when they elect to engage with these resources. From there, it becomes important to increase the level of pedagogical qualification and awareness of vocational trainers and workplace supervisors in order to enhance the overall quality of the guidance provided in workplaces. Aligning with these findings and theoretical orientations, this paper aims to present a training tool that has been recently elaborated and implemented in order to develop guidance skills amongst vocational trainers exerting tutoring functions towards apprentices in workplace contexts. It does so by referring to a research program sponsored by the Swiss National Science Foundation (SNF), in which issues related with teaching and learning practices in the Swiss "dual" VET system have been identified and elaborated in detailed ways by adapting and using methodologies borrowed from applied linguistics. The paper commences with a brief overview of the main methodological assumptions underlying the research program. The second section of the paper describes and illus-

trates a training tool based on key findings resulting from this research program. This training tool consists in providing vocational trainers and workplace supervisors with analytic categories enabling them to diagnose the qualitative properties of their workplace environments and the specific ways apprentices interact with trainers in these environments. Finally, the last section of the paper explains how this analytic tool has been recently implemented in training programs addressed to vocational trainers and how it has been used as a resource for professional development.

Paper Session 2A: 2

Paths for supporting VET teaching through hypervideos

Anh Thu NGUYEN, Alberto CATTANEO, Carmela APREA

Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

Even though technical limitations are nowadays mainly solved, the use of hypervideos for learning purposes still remains limited to few experiences. In this contribution, we present a review of research done so far, with a dual aim: on the one hand, to map the state of the art and identify new research directions; on the other hand, to generate first recommendations to support teachers in integrating hypervideos into the design of instructional scenarios. The findings that we collected led us to draw up a preliminary framework which depicts the hypervideo integration process into three stages, each one involving teachers or students. Different combinations of these stages lead to several paths of integrating hypervideos into educational settings.

Paper Session 2A: 3

Evaluation's role in enhancing organizational development by supporting teachers scientifically

Tanja Patrizia SCHNOZ-SCHMIED, Lars BALZER

Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

The Swiss Federal Institute for Vocational Education and Training (SFIVET) evaluates its formation-modules to support quality and continued development. In addition to rating aspects of teacher behaviour, module participants are asked to judge aspects related to students as well as to the module implementation that help creating a good teaching session. Items used are based on existing instruments (e.g. Rheinberg, Vollmeyer & Burns, 2001; Gollwitzer & Schlotz, 2003; Rindermann, 2009), which then were adapted by SFIVET teachers and students. Assessment scales are also created on the basis of classical test theory.

Overall satisfaction has traditionally been the main quality criteria used in course evaluation. Rindermann (2009) and Braun & Leidner (2009) suggest, however, that quality criteria of good teaching should be expanded to include other aspects such

as competences and learning benefit.

In this presentation, we examine the extent to which quality criteria of good teaching are related to each other and how these quality criteria can be statistically explained by influencing factors (Rindermann, 2009). Furthermore we show how we worked with SFIVET teachers to develop organizational learning (Preskill, 1994) on the basis of evaluation findings regarding the quality of formation-modules (Cousins, 2003; Weiss, 1998). Working with evaluation findings means for us not only to present descriptive results, but to integrate findings of means, correlations and hierarchical linear regressions. First experiences referred to evaluation outputs and evaluation utilization (Cousins, 2003; Mark & Henry, 2004) will be reported.

Paper Session 2B: Comparison of VET Systems

Time: Wednesday, 13/Mar/2013: 5:00pm - 6:15pm, Location: 214

Paper Session 2B: 1

Standardization of vocational education and training within Europe – Strategies, consequences, opportunities and threats

Tanja BACHER

3s research laboratory, Austria

For some years now, the European Commission has highlighted the importance of VET and an enhanced comparability of VET systems. Against the background of this general European VET policy several directives and recommendations aiming to standardise specific qualifications and/or training programmes and/or enhancing the general comparability of VET systems within the European Union were issued. Although the EU abstained from 'harmonising' vocational education and training several European-wide occupational profiles were invented by the European Commission in recent years. Under the pretence of enhancing road safety and raise the attractiveness of the occupation professional driver the European Commission in 2003 invented an initial qualification and periodic training for professional drivers (Directive 2003/59/EC). Even though the directive leaves Member States different options of introducing the Directive in the national legislation it defines minimum qualification requirements of professional drivers and imposes certain training measures and thus can be seen as an EU-wide common VET scheme. The question to be discussed in this article is how national systems react to such an EU-wide common VET scheme and what should be considered when introducing such standardised qualification requirements?

In order to answer these questions several European policy documents and relevant studies were screened and analysed. In total approximately 40 qualitative expert interviews with experts and stakeholders in 7 countries were conducted and analysed through content analysis. In order to investigate what effects the directive had on national level and to develop strategies/recommendations about what

should be considered when introducing an EU-wide common VET scheme a SWOT-analysis – strengths, weaknesses, opportunities and threats – was developed. Finally the article discusses strategies, consequences, opportunities and threats and draws conclusions on what to consider when introducing such a European-wide VET scheme.

Paper Session 2B: 2

National reforms in a global context: A comparison of Finnish and Swiss VET

Stefanie STOLZ

University of Zurich, Switzerland

The overall aim of this paper is to discuss how national vocational education systems are influenced by global reform discourses. The objects of the comparative research are Finland and Switzerland. The two countries have a very interesting point of departure. Both countries are members of the OECD, Finland belongs to the EU while Switzerland does not. In addition regarding vocational education and training, the two countries use different approaches: the Finnish system is mainly school-based; Switzerland has a mainly dual training system.

The presentation will focus on the essential challenges of school-to-work transition. On the basis of these current theme differences and similarities of educational policy and steering processes in Finland and Switzerland should be highlighted and discussed.

Paper Session 2B: 3

Workplace training incidence and the need for skills. Germany and Britain in comparison

Rossella ICARDI

University of Southampton, United Kingdom

In this paper I compare the definitions, characteristics and trends of workplace training in the German and British panel data respectively (GSOEP and BHPS) across the years 1998-2008. In detail, training incidence and determinants of training are examined. The diverse definition of training used in different surveys makes international comparison difficult; moreover, national patterns related to the structure of the educational systems influence the probability to undertake training on the job. In the two countries, there are contrasting conceptions of what it means to have the right skills for work: Germany has a strongly institutionalized system of preparation for work, based particularly on vocational training, in contrast with Britain where individuals access employment without possessing specific skills. The German and British skill formation systems are then quite diverse and this influences the necessity to acquire further skills once accessed the job.

I therefore specifically focus on what role the individuals' typology and level of

education plays in regard to training participation besides other personal characteristics. My findings highlight differences between German and British trainees particularly concerning the age they undertake training and the educational level possessed.

Paper Session 2C: Career Decisions and Development/Measurement of Competences

Time: Wednesday, 13/Mar/2013: 5:00pm - 6:15pm, Location: Aula

Paper Session 2C: 1

Determinants of career decisions in compulsory school, apprenticeship and young adulthood: First results

Markus P. NEUENSCHWANDER, Marcia HERMANN

University of Applied Sciences Northwestern Switzerland, Switzerland

Vocational decisions in compulsory school define starting points of professional careers. At the end of apprenticeships, prior vocational decisions can be changed. After first experiences in work life, young adults may decide to start a new education or to move on to higher education. Prior research shows that the motivational expectancy-value-theory explains educational decisions. We do not know the predictive power of this theory for young adults in comparison with students in compulsory school and apprentices leaving VET. We hypothesize that expectancy-value theory allows to predict educational options in contrast to occupational options in varying career situations.

We chose a multi-cohort cross-sectional design and applied standardized online questionnaires to examine these questions. The sample consisted of three cohorts: (1) 472 9th graders, (2) 716 apprentices at the end of VET and (3) about 500 employees aged 22-30 in their firm. The online questionnaires consisted of items with rating scales that were successfully developed in prior studies.

Results from regression analyses show to what extent student expectancies and values in three different age cohorts predict the choice of an occupation or a new education. The results contribute to our theoretical and empirical knowledge about the transition from school to work, so that we can learn how adolescents make vocational decisions at different stages in their lives. We discuss how the results let us improve the regulation of the VET system in Switzerland.

Paper Session 2C: 2

An explanatory model for the development of professional competences in information technology specialists

Agnes DIETZEN¹, Andreas C. LAZAR², Reinhold NICKOLAUS², Annalisa SCHNITZLER¹, Stefanie VELTEN¹

¹Federal Institute for Vocational Education and Training, Germany; ²University of Stuttgart, Germany

The aim within the presentation is to investigate the question of which conditional factors play a part in the development of professional competence in technical training. The training occupation of information technology specialist will serve as a particular example for studying the significance of initial cognitive resources such as prior knowledge, intelligence and the learning environment within the company providing training and at the vocational school and for the generation of an explanatory model for the development of professional competence.

For this purpose, the aim is to present results from a longitudinally designed cooperation project between the Federal Institute for Vocational Education and Training and the University of Stuttgart (term of the project from January 2010 to December 2012), in which the object of investigation is the development of professional competence in trainees in information technology and mechatronics. This project involved the use of tests and questionnaires over a period of eighteen months to carry out repeated surveys of professional competence, prior cognitive learning displayed, quality characteristics of company-based and school-based training and motivation at the dual learning venues of the company and the school. The evaluation encompassed approximately 400 trainees in each occupation from the start to the mid-point of training and a further 400 trainees from the middle to the end of training.

Paper Session 2C: 3

Challenges and preliminary results in cross-national adaption of a computer simulation for measuring competences in the commercial field

Doreen HOLTSCHE, Silja MENTELE, Franz EBERLE

Universität Zürich, Switzerland

The vocational training of commercial apprentices is of particular importance to Switzerland. Yet, to date, little is known about the development of learners' competences at vocational training colleges ("Berufsschule"). The present sub-project is part of the Leading House project 'Learning and Instruction for Commercial Apprentices (LINCA)' and aims to examine this development. The project includes a longitudinal study of future clerks who will be surveyed repeatedly about their economic competences. This research involves questions about competence structure and levels. We assume that economic competence is multidimensional comprising both a general competence in economics and business administration and a vocational commercial competence.

Measuring competence is particularly challenging. Test items, which represent real-life tasks in the commercial sector, appear most suitable for assessing vocational competence. Promising efforts can be observed in Germany, where a computer simulation of a fictional firm was developed to assess commercial compe-

tence. The current presentation focuses on the adaptation of this test instrument to Swiss settings. We will also present preliminary results from the first application of this simulation with apprentices in their first year of training from the German-speaking part of Switzerland. Motivational and biographical features of the teenagers will be taken into consideration.

Our investigation illuminates learners' prerequisites at the beginning of the commercial training and allow us to present findings about vocational commercial competence on a theoretical-conceptual level. The results should help schoolteachers and vocational trainers improve their teaching.

Paper Session 3A: Training Firms

Time: Thursday, 14/Mar/2013: 8:45am - 10:00am, Location: S005

Paper Session 3A: 1

More apprenticeship training places due to public procurement policy

Mirjam STRUPLER LEISER, Stefan C. WOLTER

University of Bern, Switzerland

In times of shortages of training places politicians often claim for public promotion of training places. An instrument which has been applied in Switzerland to support training is public procurement policy. The aim of this paper is to estimate the effect of public procurement policy as an instrument to promote apprenticeship training places on the training intensity. Moreover, if the instrument is effective in increasing the number of training places, we analyze the effect on the quality of the additional training places. We dispose of three representative datasets on Swiss training and non training firms (2000, 2004 and 2009). For 2009 we find a considerable correlation between public procurement policy and training probability. Our examination focuses on the identification of a causal effect. Does the correlation base on a causal effect of the policy on the training probability or is it just a selection effect of having firms that are more prone to train also being more active in areas where public procurement is more frequent? To identify the causal effect we make use of a natural variation between Cantons in the timing of the policy change and apply a difference-in-differences strategy.

Paper Session 3A: 2

The costs of recruiting apprentices: Evidence from German firm-level data

Harald PFEIFER¹, Samuel MUEHLEMANN², Felix WENZELMANN¹

¹Federal Institute for Vocational Education and Training (BIBB), Germany; ²University of Bern, Switzerland, and IZA Bonn, Germany

In this paper, we use firm-level data to analyze a firm's costs of recruiting appren-

tices. Recruitment costs are on average 650 Euros, which corresponds roughly to an apprentice's wage for one month. However, we find considerable heterogeneity in these costs, as recruitment expenditures range from zero to 8,000 Euros. Our results suggest that the regional supply of (potential) apprentices and the degree of local competition among training firms strongly impact on a firm's costs of recruitment. We further find that labor market institutions, such as works councils and collective bargaining, are important determinants of an apprentice's recruitment costs. The implications of our analysis are important in the light of demographic changes and the increasing competition for talented school leavers between the (dual) vocational and academic tracks.

Paper Session 3B: Youth with Migration Background in VET

Time: Thursday, 14/Mar/2013: 8:45am - 10:00am, Location: Aula

Paper Session 3B: 1

Challenges of migrant girls in Swiss education

Jelena LENGGENHAGER

Gewerblich-industrielle Berufsschule Bern (GIBB), Switzerland

This study focuses upon experiences of a group of girls with migration background in the Swiss educational system. It is a qualitative study drawing on the data from semi-structured interviews with twenty-four girls from a vocational school in Berne. The data analysis is based on the grounded theory and employs post-structural theoretical framework with concepts of discourses of 'difference' as theorised in the work of Avtar Brah.

The study argues that the migrant girls are exposed to multiple forms of discrimination, most prominently caused by the state discourses on foreigners in Switzerland. The accounts of the interviewed girls uncover experiences of symbolic violence as misrecognition of gender and racial inequalities, and show the strategies the girls have developed to cope with marginalisation, social exclusion and institutional discrimination.

Paper Session 3B: 2

Migrant integration in a VET-oriented schooling system: A ladder hard to climb

Joelle LATINA, José V. RAMIREZ

Geneva School of Business Administration, Switzerland

Taking into account different forms of capital, we focus on migrant integration into the Swiss schooling system, as expressed by their track choice at the upper-secondary level. In particular, we examine whether school transitions of children from certain migrant communities are negatively affected by a lack of social capital using

a reduced-form multinomial logit on longitudinal data from the Canton of Geneva (Switzerland), for the period 1993-2007. Results confirm that social capital matters independently of human and financial capital and, while affecting all students, the impact of a lack of social capital is considerably higher on high-track students. Among low-track male students, recent migrants are disadvantaged compared to natives and first-wave migrants, as the later are, *ceteris paribus*, more often oriented toward non-certifying remedial education.

Paper Session 3B: 3

Types of professionally successful migrants

Margrit STAMM

University of Fribourg, Switzerland

This article focuses on a typology of high-achieving migrants who are at the end of their vocational training. The foundation of the study is based on the data from a Swiss longitudinal study, which compares the migrants with likewise successful native people. A cluster analysis of the migrants result in four success patterns: the «Considerate & Success Oriented», the «Adjusted Biculturals», the «Self-Confident & Distant» and the «Autonomous & Social Climbers». These categories refer to their different backgrounds, experiences, and even attitudes, that underlie educational success. Thus, this paper not only underscores the necessity of paying greater attention to high-achieving migrants, but also spotlights differences in their profiles. The study concludes with several conclusions for educational policy.

Paper Session 3C: Computer-Assisted Teaching and Learning

Time: Thursday, 14/Mar/2013: 8:45am - 10:00am, Location: 214

Paper Session 3C: 1

Socially shared metacognition with apprentice cooks in Swiss VET

Elisa MOTTA, Alberto CATTANEO

Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

In Vocational Education and Training (VET), apprentices experience multiple learning contexts. Using technology as a means to capture professional situations lived at the workplace can help apprentices to reflect at school - through fitting activities - on what they live at the workplace and vice versa, connecting the two learning locations. Given the assumption that ePortfolio can be an instructional tool to promote and support metacognition, the present work aims to see the effects of individual and shared metacognitive learning activities on apprentices' metacognitive development in two classes which respectively use an electronic Portfolio and a traditional paper-pencil one. We designed a longitudinal study, involving cook

apprentices (n=45) and their teacher of “professional knowledge”. Each apprentice in the experimental group (n=22) was given an iPhone to collect meaningful pictures at the workplace and also an e-portfolio, where a. to write recipes, to be enriched by the collected pictures and b. to fill in the so-called “Weekly Report” with reflections on her/his practice.

The design of the study foresees four main phases, where the apprentices conduct different learning activities, with the whole class or in small groups. The main measures foreseen are: 1. self-reported questionnaires on metacognitive skills, based on Metacognitive Assessing Awareness (MAI, Schraw & Dennison, 1994) and Motivated Strategies for Learning Questionnaire (MSLQ, Pintrich et al, 1991) scales. Five waves are foreseen, one at the beginning, plus one after each of the four phases. Additional measures are 1. the written productions in the electronic or paper-pencil portfolios, 2. a brief questionnaire on the perceived usefulness of the activities themselves and 3. video recordings of the group learning activities.

Paper Session 3C: 2

A study about the development of spatial reasoning skills in carpenters’ training

Christoph ARN¹, Sébastien CUENDET², Engin BUMBACHER², Patrick JERMANN², Pierre DILLENBOURG²

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Dual vocation and training systems aim at creating optimal conditions for an integrative development of professional competence through the alternation of phases at school and at the workplace. However, several studies of vocational educational research demonstrate that teachers and trainers often fail in stimulating the cognitive and metacognitive processes necessary for apprentices to link their workplace experiences with their academic learning content. This gap between theory and practice also applies for the carpenters’ domain: The school curriculum for the carpenters’ apprenticeship weekly dedicates 3 hours to drawing classes, while in practice, apprentices rarely draw. The existence of drawing classes is mainly justified by their contribution to the development of spatial skills, which are essential to carpenters. To gain a clearer view on the development of carpenters’ spatial skills, we tested 125 carpenter apprentices first in 2010 and then again in 2012. In this paper, we present the result of this study, which show that carpenters’ spatial skills improve between the beginning and the end of their apprenticeship. The progress in spatial skills also seems to vary throughout the different years of apprenticeship.

Paper Session 3C: 3

Moving beyond personal experience through computer-supported collaborative writing in vocational education

Giulia ORTOLEVA, Daniel SCHNEIDER, Mireille BETRANCOURT

University of Geneva, Switzerland

Vocational education usually combines traditional concept-based school learning with practical workplace training. Although, in theory, alternating between these two settings is a great opportunity for learning, apprentices encounter difficulties in articulating formal explicit knowledge discussed in school with implicit tacit knowledge acquired in the workplace. This research explores the potential of writing and peer-collaboration as mediating tools to facilitate the articulation of these learning settings. In the context of a school for health and social care assistants, apprentices conducted writing activities as means to capture critical situations encountered in the workplace, shared them with their classmates, and engaged in written and oral discussions with colleagues and the teacher. An online collaborative writing tool (wiki) was used for writing and facilitating participants' interactions. The present research has two parallel objectives: on the one hand it aims at investigating whether collaborative writing foster apprentices' understanding of professional practices and self-efficacy beliefs; on the other it aims at elaborating an effective instructional activity, which uses collaborative writing activities to promote thorough understanding of professional situations.

Two classes participated in the activity, a first-year and a second-year class. The results obtained showed a significant effect of the scenario on the self-efficacy beliefs of apprentices of the first-year class, as well as a positive impact on second-year apprentices' understanding of the procedure discussed (first-year class' results are currently under analysis). These preliminary results comfort our general hypothesis that computer-supported collaborative writing scenarios represent an ideal activity to effectively connect workplace and school settings. Additional analysis will be conducted on apprentice's subjective evaluation and contents of the texts produced.

Paper Session 4A: Career Aspirations and Paths

Time: Thursday, 14/Mar/2013: 10:30am - 11:45am, Location: Aula

Paper Session 4A: 1

Learning for career and labour market transitions – Individual biographies

Antje BARABASCH, Giovanni RUSSO

Cedefop, Greece

This study investigates how adults established in their careers are navigating their ways through changing labour markets. It focuses upon how skilled workers have

engaged with or chosen different forms of learning (including learning at work as well as in more formal settings), guidance and other support in order to develop their current set of skills and competences and overcome barriers to career progression. The study examines the different patterns and pathways individuals follow in their career development in Denmark, France, Germany, Italy and Spain, partly through outlining the strategic learning and career biographies of 25 interviewees in each country.

A central question for this study is how learning can support workers' continuing transitions in the labour market. The research generates a deeper understanding of the many dimensions underlying individual approaches to career transitions and learning and will contribute to the development of a comprehensive model, that intends to accommodate the different ways in which learning can support labour market transitions. It will also inform about the ways in which adult and work-based learning can help people to better manage careers and working-life transitions, in order to set the stage for future analyses and pave the way for policy recommendations at national and European level.

The five countries were chosen to represent very different approaches in relation to policy strategies, laws and regulations which frame their national contexts and the factors that affect the ways in which learning supports labour market transitions (structure and characteristics of the educational provision, active labour market policies and relevant features of the welfare system).

Paper Session 4A: 2

Long term effects of social background, gender and personality on career development and social status: Development from adolescence to middle adulthood

Kurt HAEFELI, Claudia SCHELLENBERG, Nicolas SCHMAEH, Achim HAETTICH

University of Applied Sciences in Special Needs Education, Switzerland

What are the long term effects of social characteristics on career success? Are gender and family background determining factors for professional careers in adolescence, young adulthood and also in middle adulthood? Or are other variables such as cognitive ability and personality traits equally or even more important? Are there differences between men and women? Do the above mentioned results hold true in a Swiss context with its VET system which forces most young people at the early age of 14-15 years to make a vocational choice? And finally: Is there a difference whether we consider the criterion of subjective versus objective career success?

The data base for the analyses is the Zurich Longitudinal "Study From School to Middle Adulthood" (ZLSE): The ZLSE is a longitudinal study that encompasses nine surveys (B1 to B9) from various projects (Schallberger & Spiess Huldi, 2001). The data collection so far took place between 1978 and 1999/2000, and covers the 15th to the 36th year of life. In spring 2012 a new wave (B10) was conducted. One of the ZLSE's particular strengths lies in the differentiated assessment of adolescence

with approximately 3'500 variables. The latest survey comprises data ascertainment with regard to professional path, current life situation and contentment with professional and private situation. The present sample includes 484 persons in different Swiss-German speaking. The response rate (2012) after two written reminders and additional telephone calls was 72%.

The preliminary results confirm our expectations that personality plays an increasing role over the life span. Family and socioeconomic background and also gender play a role as well but have less weight than during early phases of the career.

Paper Session 4A: 3

The impact of labor market entry conditions on initial job assignment and wages Beatrice BRUNNER¹, Andreas KUHN²

¹University of Zurich, Switzerland; ²Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

We estimate the effects of labor market entry conditions on wages for male individuals first entering the Austrian labor market between 1978 and 2000. We find a large negative effect of unfavorable entry conditions on starting wages and a sizable negative long-run effect. Our preferred estimates imply a lifetime loss in wages of about 1.3% for an increase in the initial local unemployment rate by one percentage point. We show that bad entry conditions are associated with lower quality of a worker's first employer and that the quality of workers' first employer explains as much as three-fourths of the observed long-run wage effects resulting from bad entry conditions. Moreover, wage effects are much more persistent for blue-collar workers because part of them appears to be permanently locked in into low-paying jobs/tasks.

Paper Session 4B: Professional Socialisation and Vocational Selections

Time: Thursday, 14/Mar/2013: 10:30am - 11:45am, Location: 214

Paper Session 4B: 1

Determinants of professional socialization in apprenticeships Markus P. NEUENSCHWANDER, Michelle GERBER

University of Applied Sciences Northwestern Switzerland, Switzerland

Students who start an apprenticeship are confronted with new professional tasks and a new social environment. Inspired by Kammeyer-Mueller & Wanberg (2003), our working model describes how vocational choice processes, social behaviors and relations in compulsory school predict the social integration process within a company (mediator) and distal factors such as the person-apprenticeship fit per-

ception and professional satisfaction in an apprenticeship. We hypothesize that a high professional decidedness and a strong commitment to family and school norms are more important for professional socialization into a work group than school grades.

The longitudinal study sample collected in eight cantons of Switzerland includes 550 student, 569 parent and 678 teacher questionnaires at the end of the students' 9th grade (T1). Between the first and 5th month of their apprenticeship (T2-T6), between 432 and 494 students monthly filled out an online questionnaire. In the 6th month of the apprenticeship, which was the final data collection stage (T7), 451 students, 483 parents and 244 supervisors completed a questionnaire. Factor and reliability analyses replicated the factor structure from student wave one data to student wave two to seven data. When items from student questionnaires were also used in parent and teacher questionnaires, the factor structure was replicated.

Analyses of variances showed a significant and linear decrease in the person-apprenticeship fit perception and professional satisfaction over the seven points of measurement. Apprentices' fit perception in the final data collection stage (T7) can be predicted by 9th grade student's professional decidedness, student's classroom misbehavior (negatively) and relationship with the parents - but not by academic grades. In contrast, apprentices' professional satisfaction is not stable during the school to work transition period.

The results will contribute to the theory of socialization in apprenticeships and give directions on how to better support students during this transition period.

Paper Session 4B: 2

Cost-benefit estimation when choosing an apprenticeship offer. Evidence from a choice experiment

David GLAUSER, Franziska JÄPEL, Rolf BECKER

University of Bern, Switzerland

Despite the fact that the portion of juveniles attending VET after compulsory school in German speaking cantons is high, little is known about why juveniles opt for certain apprenticeships and how they balance pros and cons when they can choose between several apprenticeship offers. We present findings from a choice experiment and answer the following questions: a) how do juveniles evaluate negative signals, b) whether juveniles opt for offers which "objectively" and regarding the motive to maximize gains seem to be a good call and c) whether the decisions are bound to just make satisficing choices and what attributes of apprenticeship offers do match the criterion of a gut decision best. Panel data from a study on vocational and educational decisions of pupils at lower secondary education in German speaking cantons is used. The effects of the attributes used in the choice experiment as well as individual characteristics (gender, migration background, parent's socio-economic status) on the discrete choice of the apprenticeship offers are estimated with conditional logit models.

Paper Session 4B: 3

Returns from apprenticeship training in Germany – Individual decisions, institutional arrangements and the stratification process – Alain Kerckhoff (1995) revisited

Oliver WÖLFEL^{1,2}, Hans DIETRICH¹

¹University of Bamberg, Germany; ²Institute for Employment Research, Germany

We are interested in the double selection effect of the German apprenticeship system.

Firstly, firms configure annually the number of new openings for apprenticeship and decide about the candidates to be accepted for training places. In the second step firms decide which trainee will get a job offer after finishing the apprenticeship. The second step is well explored, i.e. a successful apprenticeship is closely connected with the firm specific training strategy. What is underexplored is the selection of training candidates into the apprenticeship and how far this explains the outcome of training measured at the second step (Wen 2012). In order to assess the double selection effect, we merge three different data sets to combine unique survey data on life course information with daily precise information on training and employment career (resulting from register data).

The findings indicate a more complex interplay of status- versus income oriented strategies as part of individual strategies of training graduates and individuals' productivity, observed by the training firm in the around three years of apprenticeship training. The findings also indicate that more information on the quality of the first job and the course of employment within the first years on the labor market should be implemented in future research.

Paper Session 4C: Basic and Intercultural Competences

Time: Thursday, 14/Mar/2013: 10:30am - 11:45am, Location: S005

Paper Session 4C: 1

How to find out what kind of numeracy is required for a certain workplace? Three case studies

Hansruedi KAISER

Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

Vocational Education and Training is only efficient if the contents taught are in close correspondence with the real requirements of the workplace. This applies to all aspects of numeracy as well. To help learners to improve their numeracy, teachers need to know what kind of mathematical thinking and what operations are prevalent at a certain workplace. But as numeracy at the workplace is often deeply embedded in tools, processes, or other organisational arrangements this is a difficult question to answer. Observational studies are very costly and interviews with experienced

professionals may not work because of the “invisibility” of numeracy. There is a need for other, more efficient ways to explore numeracy used at work. The article illustrates three case studies using different approaches and reflects on their advantages and shortcomings.

Paper Session 4C: 2

“I-VET”: Fostering intercultural competences of VET teachers and trainers

Giorgio COMI¹, Filippo BIGNAMI¹, Furio BEDNARZ², Maria Giovanna ONORATI³

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²ECAP Foundation, Switzerland; ³University of Valle d’Aosta, Italy

Our contribution will present aims and first results of a transfer of innovation project (“I-VET”) led by the SFIVET in cooperation with ECAP Foundation and the University of Aosta Valley (Italy), involving several European partners from 7 countries. The project aims at enhancing competences of VET practitioners in managing intercultural dynamics, drawing on a previous model (Interdisciplinary Course of Intercultural Competences – ICIC). “I-VET” focuses on innovation of methodological approaches adopted to build intercultural competences in a lifelong learning perspective, designing and consolidating a training offer (Summer School). The project, begun in 2012, already developed and tested methodological guidelines. The first edition of the Summer School is foreseen in 2013 (Ticino).

“I-VET” project aims at developing active citizenship and integration, improving intercultural skills by contextualized and self-experienced learning. Moving from a holistic definition of intercultural competence, the project design and test a comprehensive, situated and multidimensional approach to learning, enhancing the emotional-relational dimension of learning, the planning and cooperative approach, focusing on case studies and on the reflective elaboration of critical incidents. Theoretical schemes are elaborated or inferred from the experience itself. From the didactical point of view the project aims at valuing everyday life, workplace, urban areas as ideal learning activators, feeding reflection on memories and actual experiences in an action research perspective. Privileged learning trigger is the exploration of urban areas and social environments looking for traces and evidences of diversity. The operational translation of the learning path into the daily practice, under the lens of conceptual theory frames, ensures the coherence between professional experiences and learning. The creation of a stable network fosters the development of a community of practice.

Moreover, reflective learning is supported by scaffolding and accompaniment, helping participants transform noticeable events in relevant learning objects, generating new mental frames and behavioral models.

Paper Session 5A: Comparative Analyses of Apprenticeships

Time: Thursday, 14/Mar/2013: 2:45pm - 4:00pm, Location: 214

Paper Session 5A: 1

Vocational education and training and its impact on productivity - A three-country analysis

Frank COERVERS¹, Hans HEIJKE¹, Ben KRIECHEL¹, Harald PFEIFER²

¹Maastricht University, Netherlands; ²Federal Institute for Vocational Education and Training (BIBB), Germany

In this paper, we analyze the productivity impact of employing vocationally trained workers. We use industry-level panel data for Germany, Netherlands and the United Kingdom to assess, whether the productivity impact differs with respect to the importance and type of the vocational education and training system in these countries. Estimating fixed-effects regression models, we find that increasing the labour input of vocationally educated and trained workers has, in comparison to labour of generally educated workers, a large productivity effect in all three countries. A graphical analysis shows that Germany and the Netherlands are closer to the optimal level of employing workers with VET than the United Kingdom.

Paper Session 5A: 2

VET system output versus labour market demands – Induction, recruitment and training practices as indicators to address the “matching-problem”

Tobias WOLFGARTEN, Marthe GEIBEN, Phillipp GROLLMANN

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

High youth unemployment is one essential issue in the current economic crisis in Europe. Especially in Southern Europe, whole generations of young people fail to successfully enter the labor market. Social problems and poverty are the consequences. As shown by the efforts of some European governments to reform their vocational education and training systems (VET), a good quality of VET has been identified as one possible factor to smooth the transition from education to employment. INDUCT (Study on patterns of induction, recruitment and training practices in selected European countries) gives a cross-national comparative insight into the processes of transition between vocational education and employment and the issue of “matching” between VET system output and labour market demands.

Paper Session 5A: 3

The effect of labor market regulations on the benefits of apprenticeship training

Mirjam STRUPLER LEISER¹, Stefan C. WOLTER¹, Anika JANSEN², Felix WENZEL-MANN²

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The present paper analyzes the effect of labor market regulations on training behavior. We compare the evolution in the apprenticeship system in Switzerland and Germany in the first decade of this century and make use of the similarities of the two apprenticeship systems combined with a policy change, including a liberalization of the labor market, which took place only in Germany. The advantage of the present study is that we dispose of two highly comparable datasets on costs and benefits of apprenticeship training in Switzerland and Germany before and after the policy change in Germany. We combine a matching strategy with a difference-in-differences estimation to identify the effect of the change in labor market regulations on training benefits.

Regarding our hypothesis we expect that the relaxing of the strictness of employment protection regulations in Germany increased the pressure for training firms to make apprenticeship more cost-efficient already during the contract period. As trainee wages and training intensity are difficult to change in the short-run, firms can only react to this pressure by adapting the allocation of trainees to more productive tasks. Preliminary results suggest that benefits of training increased – as expected – in Germany, compared to Switzerland, where labor market regulations had remained unchanged over this period. Moreover, we expect that the increase in benefits did not reduce the quality of training.

Paper Session 5B: VET Programmes

Time: Thursday, 14/Mar/2013: 2:45pm - 4:00pm, Location: S005

Paper Session 5B: 1

Promoting change through on-the-job training: A tool for learning and doing

Annamaria AJELLO, Claudia DI MARCO

Sapienza University of Rome, Italy

The paper describes the role of the stage as a powerful tool to promote students' learning and to increase their vocational competence; the stages were realized in a high school in a northern town of Italy.

We adopt a socio-cultural approach, and in particular, the activity theory that permits to consider school as an activity system and to focus the relationship between school and work as a relationship between two different systems. We employ Bruner's perspective in the analysis of student's learning as a process through which they also develop a personal identity.

We present the different aspects at stake in realizing the different typologies of stage and we discuss the different levels: the systemic, the organizational and the individual ones. We stress how students' attitudes change as they become responsible for the organization of the stages in different ways during the three final years of the high school.

In order to enlighten the increasing competence of the students and the development of some features of their identity, we use Bruner's (1998) self-indicators. In order to highlight the change of the systems – school and work – we also present the new procedures that both organizations adopt substituting the old ones.

Paper Session 5B: 2

Designing the content for vocational education programs: Cooperation assessment between teachers and employers

Anita ZAĻAISKALNE

Riga Food Produceer's Secondary School, Latvia

The objective of this research paper is to analyze the vocational educational program development process of the Republic of Latvia. The introduction contains general information about the vocational educational environment as a system in the republic of Latvia, where the interaction of internal and external factors happens. The first chapter deals with the general principles of designing educational programs, emphasizing specifics of developing vocational secondary education programs and pointing out to the problems that affect the quality of the content of the programs. This chapter also includes information on the mandatory content of secondary vocational education programs in the Republic of Latvia. The second chapter is a review of the author's quantitative research, which aim is to find out the opinion of teachers and employers about the content of vocational education programs, inclusion of its elements in programs. A survey of vocational education institution teachers and employers was used as a research tool. The research results provide the opportunity to examine the cooperation between employers and vocational education institutions teachers in developing vocational educational programs. Key findings of the study are: there are different opinions at the level of vocational secondary education on the compulsory content of vocational secondary education, the employers participate in the development of professional standards and assessment of professional qualification exams, but a smaller percentage of participation can be seen in the development of vocational educational programs. The development of vocational education programs is mainly in the hands of teachers. Based on the results, recommendations are given to improve the development process of vocational secondary education programs.

Paper Session 5B: 3

Conceptions of financial literacy in Swiss VET curricula

Seraina LEUMANN¹, Carmela APREA¹, Eveline WUTTKE²

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²Goethe Universität Frankfurt am Main, Germany

In modern globalized societies, financial literacy, i.e. the ability to reasonably deal with financial matters, is becoming increasingly essential for every person who is responsible for managing his or her financial affairs in everyday life. Thus, the promotion of financial literacy ought to be a core issue for VET as a part of the larger educational system. One important starting point in this regard is the inclusion of respective learning contents and goals into existing VET curricula. Based on these considerations, 25 VET schools in Switzerland have been selected and their general education school curricula have been analysed by a content analysis procedure, focussing on (a) the coverage of financial issues by VET curricula and (b) the specific contents and goals which are represented or omitted. The conceptual background of the research is given by the PISA 2012 financial literacy assessment framework and the more socio-politically oriented framework developed by Davies (2012). First results show that personal finance issues are mostly covered in general education curricula of VET schools while societal concerns in the sense of Davies (2012) are found rather seldom. Moreover, there are large curricular differences within and between VET schools concerning the content perspective of financial literacy.

Paper Session 5C: Training Conditions and Dropouts

Time: Thursday, 14/Mar/2013: 2:45pm - 4:00pm, Location: Aula

Paper Session 5C: 1

Vocational training conditions and training satisfaction: Do gender and migration background matter?

Sandra HUPKA-BRUNNER¹, Irene KRIESI²

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At the end of compulsory education, about two thirds of all young people in Switzerland enter vocational training. Previous research has consistently shown that women and young people with a migration background have more difficulties than Swiss men in finding a training position (e.g., Imdorf 2005; 2010; Haeberlin et al. 2005; Bayard 2011). Furthermore, both groups are often allocated to different training occupations (see Krüger 2001 for gender; Mey and Meyer 2012 for migration background). However, previous research has paid little attention to the question of whether these different allocation practices may result in differing training

conditions and training satisfaction for men and women with and without migration background.

Against this background, our paper investigates, first, whether and why the training conditions of young men and women with and without migration background - such as the degree of work autonomy, the perceived competence level of instructors or varied work assignments - differ. Second, we ask to what extent differences in training satisfaction between the four groups may be explained by varying training conditions.

Our analyses make use of the first seven waves of the Swiss longitudinal study TREE (Transition from Education to Employment; see Stalder, Meyer & Hupka 2011). For this paper we chose all individuals who entered firm-based vocational training during the observation span (2001 – 2007; N = 2978). The results are based on a comparison of men and women with and without migration background. We run linear regression models in order to estimate the determinants of training conditions and training satisfaction for young men and women with and without a migration background.

Paper Session 5C: 2

Exploring the company effect on VET-Dropouts in Swiss dual system: Premature apprenticeship contract terminations and the role of the training company

Lara FORSBLOM, Lucio NEGRINI, Stephan SCHUMANN

University of Fribourg, Switzerland

The so called “Dual System” is the dominating organisational form of vocational education in Switzerland. In this case learners have an apprenticeship contract with a training company. A main topic for politics, practice and research is the fact that each year up to 25% of those contracts are terminated prematurely. Contract terminations are associated with high costs for society, the company, and the young people. A decrease of contract terminations is therefore highly desirable.

The reasons of a premature contract termination have primarily been explored in studies with a focus on the characteristics of the trainees (e.g. Bassey & Backes-Gellner, 2008). The role of the training company, however, has received only little attention (Stalder & Schmid, 2006). The aim of the STABIL study is to identify factors of the training company that can explain this “dropout”-problem.

Based on a multilevel framework with a micro-, meso- and macro-level the leading research questions are: (1) what factors distinguish training companies without contract termination from training companies with contract termination? And (2) how do training companies deal with the issue of (potential) apprenticeship contract termination?

In the study we are focusing on two vocations: on painters and on cooks. The representative sample of this cross-sectional study consists for each vocation about 400 training companies from the German-speaking part of Switzerland, 200 of which with and 200 without contract termination in the recent past. Surveys based on half-standardised questionnaires are conducted with trainers and operation managers of the training companies.

Paper Session 5C: 3

Doing a qualitative research on the transition process: A way to support VET actors

Nadia LAMAMRA, Barbara DUC

Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

Several studies on school-to-work transition are pointing out the general phenomenon of lengthening of young people's paths from school to work and the link between VET dropout and this phenomenon.

As a follow-up to a research focusing on dropout phenomenon, a study has been conducted to better understand what the transition periods are made of. For this qualitative longitudinal study, several methods of data collection were used in order to gather information from most part of the original sample population: semi-structured interviews, questionnaires and follow-up of administrative files. Such heterogeneous data enabled us to conduct different analyses (descriptive, thematic content).

Based on current studies on transition (Bergman & al., 2011) and on VET dropout, this paper focus on the social resources the trainees can resort to in order to handle the transition process and its difficulties (confronting the labour market, dealing with adults, changing orientation, dropping out, etc.). The theory of social support (Granovetter, 1983) will also be discussed.

The results show extremely heterogeneous pathways following a dropout, which are remote from the linear path model often referred to as an ideal by VET actors (compulsory school-apprenticeship-first job). They also point out the duration of these periods (from 6 months to 3 years) and what they are made of: alternating or cumulating activities, and periods of inactivity. Finally, strong ties, in particular the family network, appear as central in the different transition periods. The analysis also underlines the role of VET in constructing a professional network.

These results have a direct impact on VET actors, either in influencing their representation of dropout and of transition paths, in underlining the importance of supporting the transition process, or in better connecting the different resources at disposal (family, institutional or professional network).

Paper Session 6A: Educational Choices and Outcomes

Time: Friday, 15/Mar/2013: 9:15am - 10:30am, Location: Aula

Paper Session 6A: 1

The impact of distance deterrence on the choice of field of study in vocational education in the Netherlands

Daniëlle BERTRAND-CLOODT, Frank COERVERS, Hans HEIJKE, Jesper VAN THOR

Maastricht University, Netherlands

We utilize a unique dataset of more than 15,500 first-year students in upper second-

dary vocational education of a particular region in the Netherlands, and estimate the impact of commuting distance on the choice of a field of study. Using logistic regression analysis we estimate the probability that students choose for a study in the field of engineering, economics or health & welfare. In general we find that our expectations with respect to the effect of distance deterrence on the choice of field of study come true. If the commuting distance to the nearest or the nearest-but-one school location offering a particular field of study increases then the probability that students choose for that field diminishes. As for the nearest-but-two school location offering a particular field of study, we find that commuting distance sometimes has a positive correlation with the choice for a field of study. This may imply that more remote school locations can be more attractive for students for reasons of quality of education or good accessibility by public transport. Moreover, we find that an increasing distance to a school location of one field of study may increase the probability to choose for another field of study. This result demonstrates that it is not just the distance to one particular school location that matters. We therefore conclude that the whole educational infrastructure within a region matters for the choice of a particular field of study.

Paper Session 6A: 2

Wage expectations, preferences and career intentions of healthcare students

Jürg SCHWERI, Ines TREDE

Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

A growing literature deals with the empirical value of expectations data, especially wage expectations. This paper exploits wage expectation data from a full population survey of healthcare students in the last year of their education in Switzerland (n=1491). We analyze the accuracy of wage expectations held by these students for different career options and expectations' relevance for career intentions. We show that students' wage expectations are remarkably close to actual wage recommendations for health care employees. Students are aware of actual wage structures such as higher wages for higher education, higher age and cantonal wage differences. We further show that wage expectations are correlated with career intentions, as implied by utility maximizing behavior: the higher the expected log wage for working as healthcare employee at age 25, the higher the probability that the individual intends to choose this option, and the less likely he or she intends to enter a higher education as nurse. Intentions to follow a higher education are also associated with a lower time preference, higher extrinsic work motivation and higher ability. We do not find an influence of wage expectations at age 35, i.e. for the expected wage development after age 25, in addition to the effect of wage expectations at age 25.

Paper Session 6A: 3

The impact of firm's training investment on labour market outcomes

Hans DIETRICH², Harald PFEIFER¹, Felix WENZELMANN¹

¹Federal Institute for Vocational Education and Training (BIBB), Germany; ²Institute for Employment Research (IAB), Germany

This paper investigates the impact of a firm's training investment on the former apprentice's labour market outcomes. We use unique linked survey and administrative employer-employee data for Germany to analyse whether apprentices benefit from higher training investments and work practice in terms of employment options and wage gains. In our model, we control for selection into the training firm and into the post-training job on the individual and firm level. First findings suggest that both training investments and work practice impact positively on post-training employment outcomes.

Paper Session 6B: Learning in VET

Time: Friday, 15/Mar/2013: 9:15am - 10:30am, Location: 214

Paper Session 6B: 1

Which preconditions foster apprentices' intrinsic learning motivation in in-company training and in vocational school? Findings of a longitudinal study with Swiss apprentices

Samuel KRATTENMACHER, Patrizia SALZMANN GISCHIG, Simone BERWEGER

University of Teacher Education St. Gallen, Switzerland

Following a theoretical framework proposed by Lewalter, Wild and Krapp (2001) for the context of VET, intrinsic learning motivation plays a key role in successful VET, especially for performance in school and the development of vocational competencies. With this paper we seek to gain insight into factors which foster apprentices' intrinsic learning motivation. We are particularly interested in one out of three groups of factors that have an influence on intrinsic learning motivation (see Krapp, 1993), the social context of learners (the company, the vocational school and the family of origin). In a dual VET system, motivation has to be considered at both places of learning. Therefore, we distinguish intrinsic learning motivation in vocational school from motivation in in-company training.

The presented data are part of a larger longitudinal research project with 843 apprentices, who entered vocational education and training (VET) in health and social care or construction in 2009 and who completed their three-year training in summer 2012. Here, we focus on data from the 1st and the 2nd year of VET.

Our results show that apprentices' intrinsic learning motivation in in-company training is significantly higher than in vocational school. Both measures are inter-correlated with about $r = .55$.

Furthermore, our results show that the perceived fit of individual characteristics (interests, competencies and values) with the apprenticeship has a positive influence

on intrinsic learning motivation at both places of learning. The working atmosphere in the company particularly fosters intrinsic learning motivation in in-company-training, whereas satisfaction with the vocational school training and intrinsic motivation methods used by teachers positively influence apprentices' intrinsic learning motivation in vocational school.

Paper Session 6B: 2

Procedural learning in VET through written identification of errors

Elena BOLDRINI, Alberto CATTANEO

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Procedural knowledge acquirement in the Vocational Education and Training (VET) sector is vitally important. Consequently, a central question in VET is how to teach procedural knowledge in the context of scholastic and intercompany courses where the possibility of behavioural modelling and of simulating behaviour is tremendously restricted, and where the curriculum requirements are focussed on theorising the professional practice. In this respect, video recordings of professional procedures in the form of worked-out examples can be a valid support for re-producing professional reality in the classroom. Research has proven that the use of worked-out examples to present errors and critical features has great potential for procedural knowledge acquirement because the detection of errors promotes deeper reflection on correct concepts. Nevertheless, identification of errors alone would not directly enhance a deep learning process: the identification of errors should be accompanied and adequately scaffolded by written self-explanation of the whys, of the consequences and of the correct related behaviour. The process of written self-explanation in this task allows development of the reflective capacity necessary to detect faulty elements in a practice, thus fostering the perspective transformation of the practice itself. In the study presented here we have operationalised these assumptions by designing an instructional activity which requires the written analysis of worked-out examples (correct and incorrect ones) in a specific procedural domain. The potential of video recordings as a support for showing a worked-out example in which a specific professional procedure was exploited. The study assessed the validity in VET of using the writing process to acquire procedural knowledge using faulty worked-out examples.

Paper Session 6B: 3

Building interactional competences in vocational education and training (VET) programs: The case of early childhood educators

Isabelle DURAND, Stefano LOSA, Laurent FILLIETTAZ

University of Geneva, Switzerland

In this contribution, we wish to present a recently initiated research program sponsored by the Swiss National Science Foundation (SNF), which investigates the construction of professional competences in the field of Vocational and Educational

Training of early childhood educators. We expose the objectives and methodological orientations of this research program and its preliminary findings. By focusing on the program of the Advanced Studies (Etudes Supérieures) for early childhood educators in the canton of Geneva and audio-video data gathered on a number early childhood institutions in the same area, the research program pursues four main objectives. First, to document the central role of interactional competences in the practice of a type of profession that strongly hinges on the management of interpersonal relations; second, to provide a better understanding of the role interactional competence plays in the process of learning this type of profession; third, to show how the institutions involved in vocational training (vocational colleges and workplaces) value and legitimize specific interactional competences; and, finally, to uncover the logics of continuity or disruption between the different institutions and the different interactional competences involved in the vocational training program that is being studied here. Amongst the various directions in which collected data have been explored and analysed so far, the topic of guidance strategies adopted by workplace supervisors constitutes a promising avenue. In this contribution, we present preliminary results illustrating the wide range of “participation configurations” through which workplace supervisors exert a tutoring function towards students in the workplace. Three distinct interaction formats will be identified, defined and illustrated empirically: i) observation-and-feedback, ii) joint-action, and iii) display-and-imitation.

Paper Session 6C: Institutional Partnerships in VET

Time: Friday, 15/Mar/2013: 9:15am - 10:30am, Location: S005

Paper Session 6C: 1

History matters. The importance of a historical perspective to understand the structures of the VET systems

Lorenzo BONOLI

Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

In recent years, interest in research about the historical evolution of VET systems has strongly grown. This research especially shows the extreme complexity of these systems' origins, notably for those based on a dual model of VET. These systems are not the result of a rational decision taken by a government or a chamber of profession. They are usually better described as a constant work of “ex-post adjustments” offering only a momentary equilibrium. Only an historical view upon the decisions and the measures taken in the past can bring an understanding of their origin and shed light on their current functioning.

Taking the example of the Swiss VET system, the paper will address the origin of the partnership between the three main actors of the Swiss system: the Confederation, the Cantons and the professional organizations. It will be shown that this partnership is not really the result of a foreseeing policy of the Swiss politicians at the end of the XIXth and beginning of the XXth century. On the contrary, it is the

In the context of the VET Congress 2013, this paper will underline the importance of deepening our knowledge of the laws or dispositions' origins shaping the current VET system. Such knowledge is necessary for the actors in the VET system (such as trainers or teachers), but also, and more importantly, for those actors whose task is to monitor and to adjust this system in order to prepare it for the new challenges.

Paper Session 6C: 2

Individual conceptions of connectivity: How Swiss teachers, trainers and apprentices perceive vocational learning across learning sites

Viviana SAPPA, Carmela APREA

Swiss Federal Institute for Vocational Education and Training SFIVET, Switzerland

Integrating school-based and work-based vocational learning (connectivity) constitutes an important but challenging task for each VET system. Although various integrative teaching and learning models have been developed and several reform endeavours have been fostered, their implementation is made complex by several factors. In particular, individual ways of representing school and workplaces integration into vocational learning constitute implicit filters of experiencing and acting connectivity itself.

Starting from these considerations, this study aims to explore different ways of how to conceptualizing vocational learning across learning sites in the Swiss VET system. In the Canton of Tessin, semi-structured interviews on vocational learning across learning sites were conducted with a total of twenty six vocational school teachers, company trainers and apprentices, involved in apprenticeship programs in the fields of industry as well as business and administration. Phenomenographic method was applied in order to identify individual conceptions and their features. Preliminary findings show three ways of conceptualizing vocational learning across learning sites: alternation, school-centred integration, mediation through inter-company centres. Each of them implies different ways of perceiving and realizing connectivity, pointing out specific potentialities and criticisms which we discuss in relation to the main models of school and work learning integration traced into the socio-cultural literature. Differences of conceptions between professional fields (industry and business and administration) will be object of discussion, too.

Paper Session 6C: 3

Training networks in VET – Reasons for training companies to participate

Regula Julia LEEMANN¹, Christian IMDORF², Rebekka SAGELSDORFF¹, Lorraine BIRR¹, Nicolette SEITERLE¹, Sandra DA RIN¹

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During the past decade vocational education policy has been furthering training networks (TN). Enterprises which are too small or too specialised to offer an apprentice a training-programme on their own form a training network with other enterprises to cover all the elements in the training plan. The responsibility for recruitment, placement, and formal qualification lies with a professionalised lead organization (LO). During their apprenticeship, the apprentices switch their training company on a (half-)yearly rotational basis.

There exist several advantages for the training companies (TC), e.g. professional recruitment and supervising of the apprentices by the LO, less responsibility in case of problems with trainees. On the other hand, certain disadvantages and problematic constellations of TN could hinder training companies to join a TN (costs of the LO, competition between the TC for the future employees).

The aim of the paper is to understand why companies join a training network and participate in this form of VET, in which situations they express critique but remain in the TN, and under what conditions they leave a TN.

To reveal and conceptualise the different competing and conflicting rationalities of TCs in participating in a TN, we refer to the French sociology of convention. Conventions are collectively established principles of orientation and action on the basis of which evaluation, coordination, and legitimation of relations and expectations between several actors take place.

The empirical data stems from a case study of four TNs. The paper is based on expert interviews with selected TCs and on an online survey of all TCs of the two larger TNs. The results demonstrate the plurality of rationalities that underlie the motivation for participation in a TN and the diverse motives for critique that form the «social glue» which binds the different TCs together into a lively and flexible organisational form.

HOW TO GET TO THE SFIVET

The Swiss Railway SBB runs an extensive network of services. Thanks to half-hourly clock face service on most main routes and its punctuality the passenger trains are firm favourites with the public. Please check the timetable under www.sbb.ch. Your destination from the airport is going to be Bern.

Bern to SFIVET, Zollikofen by bus:

After arriving at the train station of Bern, do as follows:

- Go to the PostAuto station (4th level of the train station building) and take the bus n° 106 (direction Zollikofen Bahnhof)
- Step off at the bus stop Zollikofen Schäferei, walk for about 50 meters – you will see the SFIVET on your right hand side.

Total time from Bern main station: 20-30 minutes

Bern to SFIVET, Zollikofen by train and bus:



After arriving at the train station of Bern, do as follows:

- Go to the train station RBS (lower level of the train station building) and take the train S8 (direction Jegensdorf or Urtenen)
- Step off at the station stop Zollikofen and take bus no. 106 (direction Bern Hauptbahnhof)
- Step off at the bus stop Zollikofen Schäferei, cross the street and walk for about 50 meters – you will see the SFIVET on your right hand side.

Total time from Bern main station: 15-20 minutes

Bern to SFIVET, Zollikofen by taxi:

After arriving at the train station of Berne you can take a taxi (4th level of the train station building) to get to the SFIVET (price around CHF 30.--).

There are different local taxi companies in Berne:

Nova Taxi: (+41) 0800 879 879

Bären Taxi: (+41) 0800 55 42 32

Taxi-Kull: (+41) 0800 830 840

GENERAL PLAN OF SITE



TIMETABLE OF THE POST AUTO N° 106

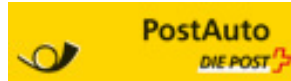


- take the bus (Postauto) N° 106 from Bern main station
- step off at the bus stop „Zollikofen Schäferei“

Departure Bern	Arrival Zollikofen-Schäferei	Duration
07:19	07:51	32 min.
07:38	08:00	22 min.
08:08	08:30	22 min.
08:38	09:00	22 min.
09:08	09:30	22 min.
09:38	10:00	22 min.
10:08	10:30	22 min.
10:38	11:00	22 min.
11:08	11:30	22 min.
11:19	11:51	32 min.
11:38	12:00	22 min.
11:49	12:21	32 min.
12:08	12:30	22 min.
12:19	12:51	32 min.
12:38	13:00	22 min.
12:49	13:21	32 min.
13:08	13:30	22 min.
13:38	14:00	22 min.
14:08	14:30	22 min.
14:38	15:00	22 min.
15:08	15:30	22 min.
15:38	16:00	22 min.
16:08	16:30	22 min.
16:19	16:51	32 min.
16:38	17:00	22 min.
16:49	17:21	32 min.
17:08	17:30	22 min.
17:19	17:51	32 min.
17:38	18:00	22 min.
17:49	18:21	32 min.
18:08	18:30	22 min.
18:19	18:51	32 min.
18:38	19:00	22 min.
18:49	19:21	32 min.
19:08	19:30	22 min.
19:38	20:00	22 min.

Departure Zollikofen	Arrival Bern	Duration
08:48	09:19	31 min.
09:18	09:49	31 min.
09:48	10:19	31 min.
10:18	10:49	31 min.
10:48	11:19	31 min.
11:18	11:49	31 min.
11:48	12:19	31 min.
12:03	12:43	40 min.
12:18	12:49	31 min.
12:33	13:13	40 min.
12:48	13:19	31 min.
13:03	13:43	40 min.
13:18	13:49	31 min.
13:33	14:13	40 min.
13:48	14:19	31 min.
14:18	14:49	31 min.
14:48	15:19	31 min.
15:18	15:49	31 min.
15:48	16:19	31 min.
16:18	16:49	31 min.
16:48	17:19	31 min.
17:03	17:43	40 min.
17:18	17:49	31 min.
17:33	18:13	40 min.
17:48	18:19	31 min.
18:03	18:43	40 min.
18:18	18:49	31 min.
18:33	19:13	40 min.
18:48	19:19	31 min.
19:03	19:43	40 min.
19:18	19:49	31 min.
19:48	20:19	31 min.
20:18	20:49	31 min.
21:18	21:49	31 min.
22:22	22:53	31 min.
23:22	23:53	31 min.

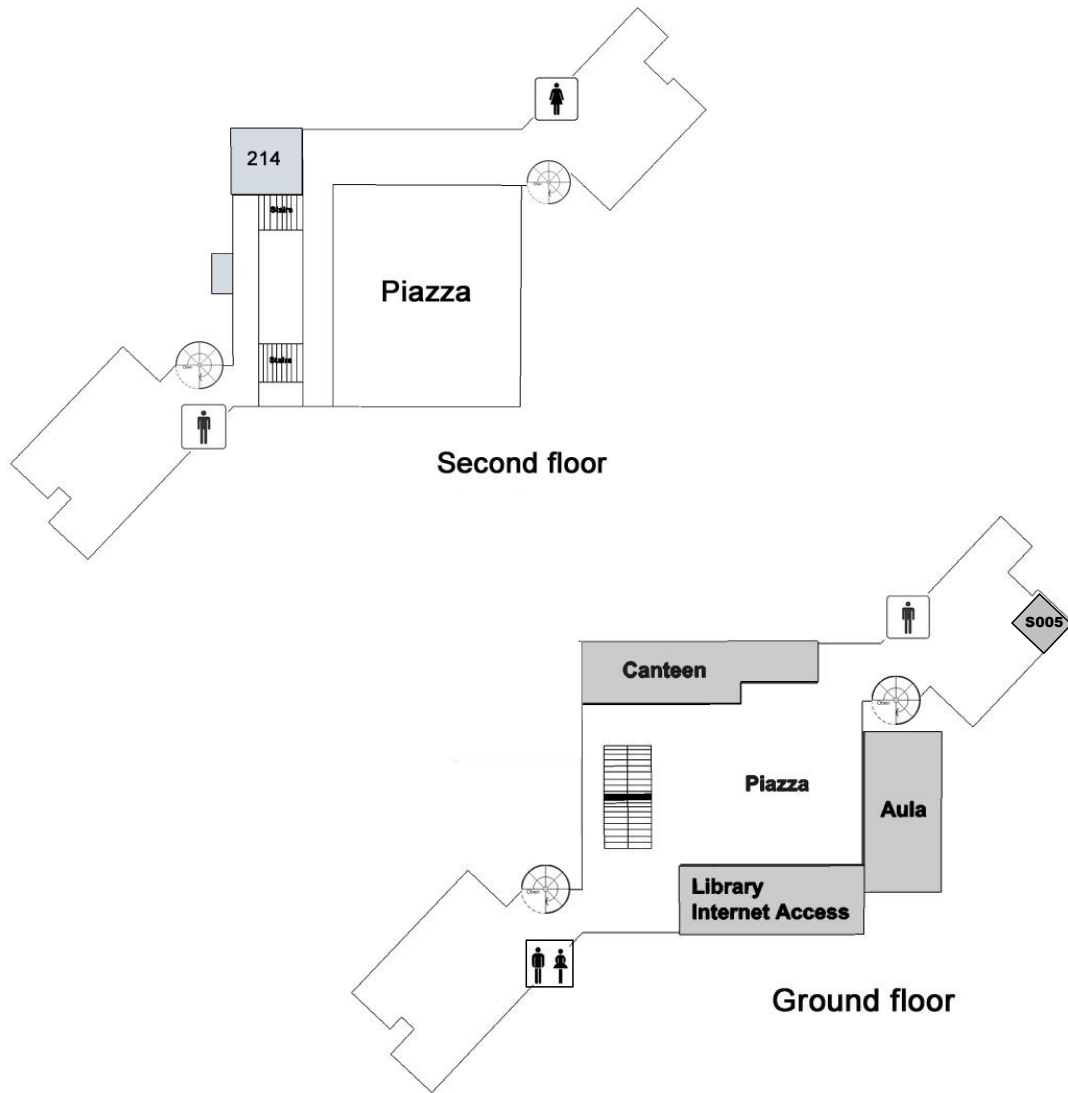
TIMETABLE OF TRAIN S8 AND BUS



- take the train S8 from Bern main station
- step off the train at „Zollikofen“
- take the bus 106 direction “Bern Hauptbahnhof”
- step off at the bus stop „Zollikofen Schäferei“

Train S8		Bus 106		Duration	Bus 106		Train S8		Duration
Departure	Arrival	Departure	Arrival		Departure	Arrival	Departure	Arrival	
Bern RBS	Zollikofen	Zollikofen	ZO, Schäferei		ZO, Schäferei	Zollikofen	Zollikofen	Bern RBS	
07:37	07:45	07:48	07:50	13 min.	08:30	08:36	08:39	08:48	18 min.
07:52	08:00	08:03	08:05	13 min.	09:00	09:06	09:09	09:18	18 min.
08:07	08:15	08:18	08:20	13 min.	09:30	09:36	09:39	09:48	18 min.
08:37	08:45	08:48	08:50	13 min.	10:00	10:06	10:09	10:18	18 min.
09:07	09:15	09:18	09:20	13 min.	10:30	10:36	10:39	10:48	18 min.
09:37	09:45	09:48	09:50	13 min.	11:00	11:06	11:09	11:18	18 min.
10:07	10:15	10:18	10:20	13 min.	11:30	11:36	11:39	11:48	18 min.
10:37	10:45	10:48	10:50	13 min.	12:00	12:06	12:09	12:18	18 min.
11:07	11:15	11:10	11:20	13 min.	12:30	12:36	12:39	12:48	18 min.
11:37	11:45	11:48	11:50	13 min.	13:00	13:06	13:09	13:18	18 min.
11:52	12:00	12:03	12:05	13 min.	13:30	13:36	13:39	13:48	18 min.
12:07	12:15	12:18	12:20	13 min.	14:00	14:06	14:09	14:18	18 min.
12:37	12:45	12:48	12:50	13 min.	14:30	14:36	14:39	14:48	18 min.
12:52	13:00	13:03	13:05	13 min.	15:00	15:06	15:09	15:18	18 min.
13:07	13:15	13:18	13:20	13 min.	15:30	15:36	15:39	15:48	18 min.
13:37	13:45	13:48	13:50	13 min.	16:00	16:06	16:09	16:18	18 min.
14:07	14:15	14:18	14:20	13 min.	16:30	16:36	16:39	16:48	18 min.
14:37	14:45	14:48	14:50	13 min.	17:00	17:06	17:09	17:18	18 min.
15:07	15:15	15:18	15:20	13 min.	17:30	17:36	17:39	17:48	18 min.
15:37	15:45	15:48	15:50	13 min.	18:00	18:06	18:09	18:18	18 min.
16:07	16:15	16:18	16:20	13 min.	18:30	18:36	18:39	18:48	18 min.
16:37	16:45	16:48	16:50	13 min.	19:00	19:06	19:09	19:18	18 min.
16:52	17:00	17:03	17:05	13 min.	19:30	19:36	19:39	19:48	18 min.
17:07	17:15	17:18	17:20	13 min.	20:00	20:06	20:09	20:18	18 min.

LOCATIONS



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