

## Program

# VOCATIONAL EDUCATION AND TRAINING CHALLENGES: DEVELOPING SKILLS AND COMPETENCES FOR THE FUTURE

2nd Congress on Research in Vocational Education and Training, Berne/Zollikofen, Switzerland  
March 23–25, 2011



## Program Overview

Wednesday 23 <sup>rd</sup> March	Thursday 24 <sup>th</sup> March				Friday 25 <sup>th</sup> March			
	08:45 - 10:00 Paper Session							
	2A (aula)	2B (214)	2C (S005)			09:15 - 10:30 Paper Session		
						5A (aula)	5B (214)	5C (S005)
	10:30 - 11:45 Paper Session							
11:00 - 13:15 Registration & Lunch	3A (aula)	3B (214)	3C (S005)	3D (S001)	11:00 - 12:00 Keynote: Miguel Nussbaum Voehl (aula)			
	11:45 - 13:15 Lunch				12:00 - 13:00 Lunch (mensa)			
13:15 - 13:55 Welcome Address: Carmen Baumeler & Dalia Schipper Opening: Frank Achtenhagen (aula)	13:15-14:15 Keynote: P. Robert-Jan Simons (aula)							
13:55 - 14:55 Keynote: Christine Trampusch (aula)								
14:35 - 15:50 Paper Session								
15:25 - 16:40 Paper Sessions								
1A (aula)	1B (214)	1C (S005)	1D (S001)					
16:15 - 17:15 Keynote: Manfred Prenzel (aula)								
17:00 - 18:00 Keynote: Eric Bettinger (aula)								
18:30 - 19:40 Sightseeing Tour (Meeting Point Train Station, Berne)								
20:00-23:00 Congress Dinner (Restaurant Schmiedstube, Berne)								

## PROGRAM

# VOCATIONAL EDUCATION AND TRAINING CHALLENGES: DEVELOPING SKILLS AND COMPETENCES FOR THE FUTURE

2<sup>nd</sup> Congress on Research  
in Vocational Education and Training,  
SFIVET Swiss Federal Institute for  
Vocational Education and Training  
Berne/Zollikofen, Switzerland

March 23 – 25, 2011

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Keynote 2: “ERVET lecture”: Eric Bettinger (Stanford University, USA)

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## Welcome Address

The Swiss Federal Institute for Vocational Education and Training (SFIVET) is very pleased to host the 2nd International Congress on Research in Vocational Education and Training in Switzerland.

Whereas the 1st International Congress on VET Research took place two years ago and dealt with the topic “Effectiveness of Learning and Efficiency of VET Systems”, the current conference is devoted to the theme “VET Challenges: Developing Skills and Competences for the Future”.

Vocational education and training (VET) systems currently face numerous challenges: changing labour market requirements, newly developed occupational profiles, a predicted lack of specialists within some occupations, unemployment, demands for greater integration of certain disadvantaged groups, demands for greater equity, lifelong learning and so on. These challenges also affect VET teaching, training and learning processes: how should they be designed in order to meet these challenges?

This conference aims to make a contribution to these topics and provides an overview of VET research activities in Switzerland and other countries. It is also intended to facilitate academic exchanges between leading institutions and present the latest international research findings.

It is the nature of VET research to take place at the crossroads between the education system and the labour market and, therefore, to address a wide range of different topics and from the standpoint of different scientific disciplines. The scientific programme will therefore include contributions from the fields of economics, education science, political science, psychology, sociology, etc. and will address topics such as comparative studies of VET systems, school-to-work transitions, professional socialisation, competence and identity, and teaching and learning in school and at work. The 17 paper sessions are framed by five 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 Berne!

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

## Congress Committee

### Members of the Scientific Committee

Prof. Dr. Carmen Baumeler  
Head of National R&D Division  
SFIVET Zollikofen

Prof. Dr. Pierre Dillenbourg  
Director of the Leading House *New Technologies*  
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University of Geneva

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Head of research area “Strategic planning of VET”  
SFIVET Zollikofen

Prof. Dr. Stefan C. Wolter  
Co-Director of the Leading House *Economics,  
Firm Behaviour and Training Policies*  
University of Berne

### Members of the Organizing Committee

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SFIVET Zollikofen

Prof. Dr. Jürg Schweri  
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SFIVET Zollikofen

Ivana Lovric  
Congress Administrator  
SFIVET Zollikofen

Rosa Rica  
Congress Administrator  
SFIVET Zollikofen

## Opening Address

### Prof. Dr. Frank Achtenhagen, University of Göttingen

The step from the 1st Swiss Congress on VET to the 2nd one is remarkable: with regard to the number and the quality of contributions as it is documented by the themes and abstracts and will be confirmed by the presentations and following discussions. But we will also have stimulating talks over the whole conference time with old, but also new friends and colleagues. As the Steering Committee for VET Research of the Federal Office for Professional Education and Technology (OPET) has been trying and is still trying to foster empirical research of high quality in the field it is very important to see that nearly all papers present data by which trends, strengths and also weaknesses of VET are identified and proven. Without such important information the steering of this decisive part of the Swiss educational system might lead to more unintended side effects of political decisions than necessary. The support of the quality of teaching/training and learning/working processes on each level of the system is absolutely necessary and inevitable, but also the support for a rise between the levels and the transition into the worksite. These topics together with those of the development of personality, of needs and possibilities of e-learning, but also hints to economic, social, political and institutional aspects and necessities of vocational, occupational and professional education and training form central parts of the program. Another point to be stressed is the internationality of topics. The given variety of similar and also very different questions and severe problems to be solved is clearly apparent in the program.

The great work done by the Organization Committee must be highly appreciated and I would like to thank all its members. I am sure that we will have very stimulating days here in Zollikofen with the 2nd VET Congress.

## Keynote Addresses

### Prof. Dr. Eric Bettinger, Stanford University

#### Strategies to Help Students Succeed: Evidence from a Randomized Experiment in Student Mentoring (Bettinger & Baker)

College completion and college success often lag behind college attendance. One theory as to why students do not succeed in college is that they lack key information about how to be successful. We present evidence from a randomized experiment which tests the effectiveness of individualized college coaching. Over the course of two separate school years, InsideTrack, a college coaching service, provided coaching to students from public, private, and proprietary universities. Most of the participating students were non-traditional college students attempting vocational programs. The participating universities and InsideTrack randomly assigned students to be coached. The college coach contacted students regularly to discuss time management, self-advocacy and study skills particularly how they mattered for the students' individual course schedules. Students who were randomly assigned to a coach were more likely to persist during the one year treatment. Treated students were also more likely to be attending the university one year after the coaching had ended.

### Prof. Dr. Miguel Nussbaum Voehl, Pontificia Universidad Católica de Chile

#### Participatory Literacy

The teacher student disposition has not changed in more than a century: an active teacher in front of passive students. The big difference that might be seen inside some classrooms are netbooks on the students' desks, or interactive white boards, following the same teacher student disposition. How can technology change the classroom dynamics to fulfill students and teachers needs? The problem has to be analyzed from a pedagogical perspective rather than a technological one. Diverse methodological approaches supported by different technologies are presented, where collaboration and interactivity are key elements. The presentation also addresses the barriers for the integration of technology supported approaches in the classroom, showing how we can bridge the students need of a space to think and reflect, with the teachers one that need to maintain the classroom pace and cover curricular needs.

### Prof. Dr. Manfred Prenzel, Technische Universität München, Germany

#### Challenge teacher Education: A new approach to pre-service teacher training

One of the most relevant factors for success of schools and educational systems is the quality of teaching, and according to that, the quality of teacher training and teacher recruitment. The paper starts with some findings that highlight challenges for a future-oriented teacher education. Current research hints on characteristics and competencies of teachers making a difference. Against this theoretical background a new approach to pre-service teacher training for secondary schools (gymnasiums and vocational schools) will be presented and discussed.

**Prof. Dr. P. Robert-Jan Simons, Universiteit Utrecht, The Netherlands****Leading teacher learning in VET**

The need for life long teacher learning in VET institutions is increasing. Societies, organisations and professions change rapidly. An important role for leaders in VET institutions is leading teacher learning. What are affordances and obstacles for teacher learning? How can leaders stimulate teachers to learn? Some recent (case) studies in VET institutions shed light on some new competences to be learned as well as some new ways to learn. New competences refer among other to development of learning materials, authenticity, digitalisation, practice based research and assessment and testing. New ways to learn refer to on the job learning, learning communities, performance related learning and selfdirected learning. Leaders can facilitate learning of teachers in several ways: translating context pressure, facilitating communitydevelopment, organising professional development and relating individual and organisational learning.

**Prof. Dr. Christine Trampusch, Universität Bern, Switzerland****The Comparative Political Economy of Collective Skill Formation**

From a historical-institutionalist and firm-centered perspective, decisions on the division of labor between firms, associations, and the state in providing and financing skills are the core factor accounting for different skill formation systems. From this it follows that, alongside the degree of firm involvement in the provision of vocational training and the degree of public commitment to vocational training, four different skill formation systems can be distinguished: the liberal, the segmentalist, the collective, and the statist. Collective skill formation systems are the result of political struggles with regard to four neuralgic points of conflict: the division of labor between the state, employers, their associations, and individuals first on the provision and then on the financing of vocational education and training (VET); the relationship between firm autonomy and public oversight in the provision of training; and the linkages between VET and the general education system.

**Program of Wednesday, 23<sup>rd</sup> March 2011**

Wednesday, 23 <sup>rd</sup> March 2011		Room
11:00 – 13:15	Registration & Lunch	Piazza
13:15 – 13:25	<b>Welcome Address</b> <b>Carmen Baumeler (Chair of the Congress, SFIVET) &amp; Dalia Schipper (Director, SFIVET)</b>	Aula
13:25 – 13:55	<b>Opening Address</b> <b>Frank Achtenhagen, University of Göttingen, Germany</b>	Aula
13:55 – 14:55	<b>Keynote 1</b> <b>Christine Trampusch</b> <b>University of Berne, Switzerland</b>	Aula
15:25 – 16:40	PAPER SESSION 1A <b>Transitions I</b>  <i>Do grades matter? The impact of grades on the success of transition from vocational training to work</i> G. Wydra-Somaggio, T. Buch & S. Hell  <i>Can a standardized aptitude test predict training success of apprentices? Evidence from a case study in Switzerland</i> M. Siegenthaler  <i>Transition from vocational training to employment via temp work</i> T. Buch, C. Burkert, S. Hell & A. Niebuhr	Aula
15:25 – 16:40	PAPER SESSION 1B <b>Transitions II</b>  <i>Youth at risk? Training situation and employment perspectives of young people after a two-year basic training course with the Swiss Federal VET Certificate</i> K. Häfeli & C. Hofmann  <i>Two-year apprenticeships – a successful model of training?</i> M. Kammermann, B. E. Stalder & A. Hättich  <i>What are the Conditions for a successful Vocational Training? First Results of a Longitudinal Study with Swiss Apprentices.</i> S. Berweger, S. Krattenmacher & P. Salzmann	214
15:25 – 16:40	PAPER SESSION 1C <b>Evaluating professional development and competence</b>  <i>Measuring Occupational Competence - the COMET project</i> L. Heinemann  <i>Online or offline evaluation of continuing training courses for VET/ PET professionals: Does the choice of medium have an influence on data quality?</i> E. Laupper & L. Balzer  <i>Educational services in 2020 and related needs for professional development</i> K. Helling & J. Proinger	S005

Wednesday, 23 <sup>rd</sup> March 2011		Room
15:25 – 16:40	<p>PAPER SESSION 1D</p> <p><b>Beliefs and tools supporting learning</b></p> <p><i>How epistemic beliefs influence e-learning in daily work-life</i> C. Harteis, H. Gruber &amp; H. Hertrampf</p> <p><i>Indices oriented computer-supported writing activities fostering professional procedures learning in vocational education</i> M. Gavota, M. Bétrancourt &amp; D. Schneider</p> <p><i>A Study of Spatial Reasoning Skills in Carpenters' Training</i> S. Cuendet, P. Jermann, C. Arn &amp; P. Dillenbourg</p>	S001
17:00 – 18:00	<p><b>Keynote 2: "ERVET lecture"</b></p> <p><b>Eric Bettinger</b> Stanford University, USA</p>	Aula

## Program of Thursday, 24<sup>th</sup> March 2011

Thursday, 24 <sup>th</sup> March 2011		Room
08:45 – 10:00	<p>PAPER SESSION 2A</p> <p><b>Transitions III</b></p> <p><i>Career Entry and Success After Tertiary Vocational Education</i> R. Geel &amp; U. Backes-Gellner</p> <p><i>Should I stay or should I go for a RN degree? Career decisions of Swiss qualified carers</i> I. Trede &amp; J. Schweri</p> <p><i>Everyone is not predestinated to be a three stars chef: apprenticeship in the restaurant sector in Burgundy</i> J. Bourdon, C. Guégnard &amp; C. Michot</p>	Aula
08:45 – 10:00	<p>PAPER SESSION 2B</p> <p><b>Professional socialisation and identity</b></p> <p><i>The transition from school to work in the context of the Swiss dual vocational education and training system: socialization into a profession and into the workplace</i> B. Duc</p> <p><i>Providing the vocational trainees with entrepreneurial competencies: An intervention study</i> N. Del Rey, F. K. Oser, C. Näpflin &amp; S. Mosimann</p> <p><i>Professional identity and professional profiles in the socio educational assistant (SEA) profession</i> V. Perriard &amp; D. A. Castelli Dransart</p>	214

Thursday, 24 <sup>th</sup> March 2011		Room
08:45 – 10:00	<p>PAPER SESSION 2C</p> <p><b>Educational tracks and professional development</b></p> <p><i>Young people's gendered occupational choices at the transition to vocational training: The role of parents' sex-typed ability beliefs, individual aspirations, and institutions</i> I. Kriesi &amp; M. Buchmann</p> <p><i>Transitions from apprenticeship training into a first significant job 1975 – 2008</i> H. Dietrich</p> <p><i>Austrian Corporatism and Institutional Change in the Relationship between Apprenticeship Training and School-based VET</i> L. Graf, L. Lassnigg &amp; J. Powell</p>	S005
10:30 – 11:45	<p>PAPER SESSION 3A</p> <p><b>Transitions IV</b></p> <p><i>The short and long term consequences of early labor market transitions</i> S. Janssen</p> <p><i>Job Tenure and VET: Too Much of a Good Thing?</i> J.-M. Falter &amp; S. Weber</p> <p><i>The consequences of being different – Statistical discrimination and the school-to-work transition</i> B. Mueller &amp; S. Wolter</p>	Aula
10:30 – 11:45	<p>PAPER SESSION 3B</p> <p><b>Reflecting workplace learning</b></p> <p><i>Workplaces as learning environments: evidence from the Swiss dual VET system</i> L. Fillietaz</p> <p><i>Learning journals in VET: Experimental testing of a paper-based instrument and a mobile and online tool</i> J. Dehler Zufferey, L. Mauroux, F. Jimenez &amp; J.-L. Gurtner</p> <p><i>Developing competences in VET through e-writing activities</i> E. Boldrini, A. Cattaneo, E. Motta &amp; C. Arn</p>	214
10:30 – 11:45	<p>PAPER SESSION 3C</p> <p><b>Evaluation and quality assurance in VET</b></p> <p><i>What can measuring of effects in VET-reality mean? The example of the VET-programme LIFT</i> L. Balzer</p> <p><i>Professional Development of Vocational School Teachers through Peer Classroom Observations and Feedback?</i> P. Salzmann &amp; F. K. Oser</p> <p>Identifying influencing factors of good teaching enables to develop SFIVET formation scientifically T. P. Schnoz-Schmied &amp; L. Balzer</p>	S005

Thursday, 24 <sup>th</sup> March 2011		Room
10:30 – 11:45	<p>PAPER SESSION 3D <b>Teaching and learning in school and at work</b></p> <p><i>Students' Errors: How teachers diagnose and respond to them</i> E. Wuttke &amp; J. Seifried</p> <p><i>Fostering metacognitive learning strategies of apprentices in lower level VET programmes</i> U. Scharnhorst, N. Kipfer &amp; N. Grolimund</p> <p><i>Collaboration for guidance: designing effective workplace learning between college and enterprise</i> L. FM Nieuwenhuis &amp; D.-J. Nijman</p>	S001
11:45 – 13:15	Lunch	Piazza
13:15 – 14:15	<p><b>Keynote 3</b></p> <p><b>P. Robert-Jan Simons</b> University of Utrecht, The Netherlands</p>	Aula
14:35 – 15:50	<p>PAPER SESSION 4A <b>Comparative studies of VET systems</b></p> <p><i>Skills and Industrial Relations: Continuing Vocational Training in Denmark, the Netherlands, Austria and Switzerland</i> C. Trampusch &amp; P. Eichenberger</p> <p><i>Varieties of Capitalism and its implications on the organizational structure in engineering plants in the USA, Switzerland, the UK and Germany</i> S. Teuber, U. Backes-Gellner, P. Ryan &amp; K. Wagner</p> <p><i>The Permeability between Vocational Training and Higher Education in Austria, Germany and Switzerland?</i> R. Nikolai &amp; C. Ebner</p>	Aula
14:35 – 15:50	<p>PAPER SESSION 4B <b>Taking prior experience based learning into account</b></p> <p><i>Validation of prior learning (VPL) as a continuous rhetorical process</i> S. Cortessis</p> <p><i>Issues of meaning involved in the information &amp; advising's phase for the VPEL</i> D. Salini &amp; M. Durand</p> <p><i>Towards the future of the activity of health and safety inspectors: A contribution to the design of innovative training programs based on an analysis of emerging collective activity configurations at work</i> M. de Moraes Pieres &amp; M. Durand</p>	214

Thursday, 24 <sup>th</sup> March 2011		Room
14:35 – 15:50	<p>PAPER SESSION 4C <b>Educational choices</b></p> <p><i>Multiple motivational profiles of VET teachers and trainers: Differences in socio-demographic characteristics and beliefs about the occupation</i> J.-L. Berger &amp; Y. D'Ascoli</p> <p><i>Self-Selection into Teaching in Vocational Education and Training (VET)</i> S. Hof, M. Strupler &amp; S. C. Wolter</p> <p><i>Track Choices and Schooling Inequality in Switzerland</i> J.-M. Falter</p>	S005
16:15 – 17:15	<p><b>Keynote 4</b></p> <p><b>Manfred Prenzel</b> Technische Universität München, Germany</p>	Aula
18:30 – 19:45	<p><b>Sightseeing Tour</b></p> <p>Tour start: Meeting point, train station Berne (ground floor)</p>	Berne
20:00	<p><b>Congress Dinner</b></p> <p>Restaurant Schmiedstube Schmiedenplatz 5 3011 Berne</p>	Berne

## Program of Friday, 25<sup>th</sup> March 2011

Friday, 25 <sup>th</sup> March 2011		Room
09:15 – 10:30	<p>PAPER SESSION 5A <b>Equal opportunities in VET</b></p> <p><i>People with Migration Background as Ascenders: Factors of Success in Vocational Training and their Way into Professional Work</i> M. Niederhauser, S. Leumann, J. Kost &amp; M. Stamm</p> <p><i>Cultural diversity, Gender and integration of difference in VET</i> B. Pfister Giauque &amp; E. Flamigni</p> <p><i>Organization of apprenticeship and equal employment opportunity. Do training networks enhance fair hiring practices?</i> C. Imdorf &amp; R. J. Leemann</p>	Aula
09:15 – 10:30	<p>PAPER SESSION 5B <b>Reflection and transfer of learning</b></p> <p><i>Capturing Workplace Situations to be Exploited at School</i> E. Motta &amp; A. Cattaneo</p> <p><i>Transfer of Learning in a French work-integrated learning program</i> L. Veillard</p> <p><i>Reflection for Apprentices in Logistics Using Augmented Paper and Tangible User Interface</i> S. Do-Lenh, P. Jermann, G. Zufferey &amp; P. Dillenbourg</p>	214
09:15 – 10:30	<p>PAPER SESSION 5C <b>Firm-provided training</b></p> <p><i>Hiring Costs of Skilled Workers and the Supply of Firm-Provided Training</i> S. Muehlemann, M. Blatter, S. Schenker &amp; S. C. Wolter</p> <p><i>Cost and benefit of two-year apprenticeships in Switzerland</i> M. Fuhrer &amp; J. Schweri</p> <p><i>How specific is German apprenticeship training?</i> H. Pfeifer, G. Schönfeld &amp; F. Wenzelmann</p>	S005
11:00 – 12:00	<p><b>Keynote 5</b> <b>Miguel Nussbaum</b> <b>Pontifica Universidad Católica de Chile</b></p>	Aula
12:00 – 13:00	Lunch	Mensa

### Abstracts of Papers in Alphabetical Order

### What can measuring of effects in VET-reality mean? The example of the VET-programme LIFT

L. Balzer, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

Measuring effects of a programme is one of the most ambitious tasks of programme evaluation. Theoretically, the golden standard of using experimental designs could be state of the art. Practically, there are many problems in the field with such a design and evaluation work often has to search for compromises, without losing the power to draw strong, valid and reliable conclusions.

Using the evaluation of the VET-programme LIFT (Leistungsfähig durch individuelle Förderung und praktische Tätigkeit - Performance by individual support and practical activity) as an example, this paper discusses different approaches of answering questions about programme effects.

To do so, working definitions about how programme effects could be defined are presented.

After that, project goals and key concepts of LIFT are described. Among others, the most important, overall goal has been to increase the chances for young people at risk finding a good place in the world of work after leaving school.

Then, different approaches of measuring programme effects in the defined way and their results are presented in detail:

- 1) Simply ask participants and stakeholders about their opinion of project effects
- 2) Looking into project details and checking compliance to programme goals
- 3) Measuring, among others, the development of social, methodological and personal competencies of LIFT-participants
- 4) Checking out in detail, where LIFT-participants find their place in the world of work after the programme has finished
- 5) Comparing really found solutions after school with predefined project goals
- 6) Doing a follow up several months after programme end to check sustainability of the found solutions
- 7) Comparing found solutions with official statistical material about transition-rates of non-LIFT young people
- 8) Comparing LIFT-participants with a control group outside LIFT

Finally, results of different approaches are compared and conclusions for future projects are drawn.

### Multiple motivational profiles of VET teachers and trainers: Differences in socio-demographic characteristics and beliefs about the occupation

J.-L. Berger, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

Y. D'Ascoli, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

Teachers' shortage is a problem many European countries are currently facing (OECD 2005; Eurydice 2009) for multiple reasons. In Switzerland, there is a lack of attractiveness of the occupation of VET teacher or trainer and thus a problem of ageing (39% of the VET teachers are over 50 years old). Hence, an important question concerns the motivations of people who choose to become VET professionals after several years of practice in a specific occupation. The motivations and beliefs of these people, which have important implication for involvement and commitment to the profession, are however rarely investigated. The present study aims at analyzing the motivations to become VET professional using a person-centred analysis to uncover motivational profiles. The FIT-Choice framework (Watt & Richardson, 2007) and scales were translated and adapted to the study context. Using cluster analysis, three groups were identified based on the motivations of 605 VET teachers and trainers. Groups were then described regarding their socio-demographic characteristics, their beliefs about the profession, and their job satisfaction. Results indicated significant differences between profiles in terms of socio-demographic

characteristics, suggesting for example that part-time VET teachers tend to adopt a different motivational profile from full-time VET teachers. Additionally, adoption of a motivational profile has implication for beliefs about teaching and training in VET, as well as for job satisfaction. On the contrary, pedagogical beliefs did not differ among the profiles. The results suggest that VET teachers and trainers may adopt three specific motivational profiles and that these are associated with several variables important for their career.

### What are the Conditions for a successful Vocational Training? First Results of a Longitudinal Study with Swiss Apprentices.

S. Berweger, Pädagogische Hochschule St. Gallen, Switzerland

S. Krattenmacher, Pädagogische Hochschule St. Gallen, Switzerland

P. Salzmann, Pädagogische Hochschule St. Gallen, Switzerland

In this longitudinal study, the research team analysis the conditions of a successful course of formation, from entering vocational training until the final examination. In Switzerland, more than two out of three adolescents make an apprenticeship. Not only the transition from the lower secondary level to vocational training, but also the apprenticeship itself and its successful completion are special challenges for trainees. After attainment of qualification, they enter the labour market more easily and with a certain guarantee of integration in the working world. Borrowing from self-determination theory (Deci & Ryan, 1997) and Krapp's (1998, 1999) person-object-theory of interest, we focus specifically on motivational variables. We started our study in autumn 2009 with a sample of 851 adolescents, two months after the beginning of their three years' vocational training in two sectors, healthcare and building construction. Throughout the course of their formation, the adolescents and their VET trainers repeatedly respond to a questionnaire, allowing for comparisons for selected variables of the adolescents' self-perception, and the trainers' other-perception. As dependent variables, we survey the apprentices' performance, satisfaction with the apprenticeship, intention to pursue the training until the final exams as well as attainment of vocational qualification. We devote special attention to learners characterized by poor academic performance even at the beginning of their vocational training, and who risk to abandon the apprenticeship or to fail the final exam. In our contribution, we present selected results from the first two sets of data collection (in the middle of the initial probation period, and in the second half of the first year of training). Amongst other findings, these data point to a significant decrease in satisfaction of the adolescents during the first year of training. Moreover, about one fifth both of the learners and their trainers mention difficult incidents at the training workplace.

### Developing competences in VET through e-writing activities

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Computer-supported collaborative writing modality can be used in order to design some learning activities which constitute a means for reducing the gap existing in the context of the dual-track school/work based Vocational Education and Training Swiss programmes and therefore for better and effectively connecting the different learning locations. Besides, this approach can foster in apprentices the awareness of their professional identity, the propensity to reflect on what experienced at the workplace and finally their competence. A study conducted

with commercial employee apprentices – in the framework of the Dual-T project conducted by the “Technologies for Vocational Training” leading house and funded by the Federal Office for Professional Education and Technology – is presented here, considering the quality of the textual productions, the effects of the writing activities on the capacity of describing professional procedures and on the above mentioned dimensions.

### **Everyone is not predestined to be a three stars chief: apprenticeship in the restaurant sector in Burgundy**

Jean Bourdon, IREDU CNRS, University of Burgundy, France

Christine Guégnard, IREDU, University of Burgundy, France

Claire Michot, IREDU, University of Burgundy, France

Apprenticeship in the Restaurant sector (here HCR for Hotels, Cafés and restaurants) have been frequently portrayed as hard line and chaotic workplaces. A basic assumption that young apprentices must accept oppression seems anchored in the sector. On one hand, restaurant sector offers a high level of job creations. So actually, in France, the sector is one of the most important providers in job opportunities for school leavers at the secondary level. Apprenticeship at secondary level implies today 6% of the youth (16-25 years old). Professional branch organizations have the ear of the government which targets this branch with affirmative employment policies under the promise of significant job creations in volume as to facilitate school to work transition. On the dark side, when looking after apprenticeship, dropouts are in the restaurant field the highest with a rate at 30%. The “*Mission locale*” in Beaune has set up a program dedicated to circumvent dropouts from apprenticeship in restaurant sector by the aid of a tutor. The program is centred to a rapid signalling for any events which could endanger the apprenticeship track in regards of personal or professional events in apprentice everyday life. At that time as the cohort is still monitored, we could not present final results but partial analysis concerning the propensity score for an apprentice for drop outting or failing. Analyse permits some interesting and original results: Apprentices seem largely enthusiastic to reach the working life, whereas they have a negative opinion concerning training in literacy. There is no systematic profile for detecting a risk Nevertheless, systematic problem arisen in certain cluster of firms in which the apprentice works.

Gender differences: Female apprentices seem more choose the firm, the specialty in a random process compared to male who decided in a more reflective context in job search

### **Transition from vocational training to employment via temp work**

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In this paper we consider the effects of temporary work on labour market entry and the subsequent careers of graduates of the vocational training system in Germany (VTS). Departing from Spence’s signalling theory we conjecture that low schooling and bad grades in the final VTS exams contribute to early temping. Early temping is in turn expected to have negative long-term career consequences. To test these assumptions we use unique data on several cohorts of German VTS graduates, providing detailed information on schooling and the quality of vocational skills, including final VTS grades. The results of multivariate regression analyses (probit models) show that graduates with lower education and graduates with bad grades are at a high risk to temp after completing

their vocational training. We find that VTS graduates who enter the labour market via temporary work suffer from low wages and repeated unemployment spells. They are also disproportionately prone to forced occupational mobility. We conclude that graduates with low productivity in particular have to rely on temporary work to make the transition from vocational training to labour market.

### **Validation of prior learning (VPL) as a continuous rhetorical process**

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The objective of our doctoral research was to answer the following question: how do VPL juries reach their decisions? VPL offers candidates the opportunity to obtain a qualification without having to complete formal education and training. This is achieved by submitting details of what one has learnt from one’s professional experience to a jury. It is a way of recognising that one learns not just at school. Collectively reaching a professional decision on what a candidate has learnt through experience and then justifying this decision in public form are the basis of the work done by VPL jury members. Education institutions have given VPL juries the final say in deciding whether to grant or deny validation. Their role is therefore to reach a collective and authoritative decision.

In this paper, we shall also seek to determine whether there are any discrepancies between the aspects that jury members considered important in their decision and the aspects that jury members actually mention when justifying their decision in public. Are the factors that persuaded the jury members the same as the factors that they mention when justifying their decision in front of others? In order to answer these questions, we approached the issue from two different angles:

- on what bases do jury members form their decision? (candidate’s prior activities or experience, his/her feelings regarding this experience, matching of prior learning with competency profiles, the candidate’s personality, etc.)
- on what bases do jury members justify their decision? (candidate’s prior activities or experience, his/her feelings regarding this experience, matching of prior learning with competency profiles, the candidate’s personality, etc.)

### **A Study of Spatial Reasoning Skills in Carpenters' Training**

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One difficulty with the Swiss dual system is the gap between the practical work in the company and the theoretical teaching at school. In this article, we examine the case of carpenters. We observe that the school-workplace gap exists and materializes through the importance given to drawing classes at school, while carpenters almost never draw at their workplace.

The existence of the drawing classes are justified by their contribution to the development of spatial skills, which are essential to carpenters. To gain a clearer view on spatial skills for carpenters, we performed a large-scale (n=512) field study on spatial skills, in which carpenters were compared with logistics apprentices and high school students. We report the results of this study and show that carpenters’ spatial skills are higher than the two other populations’ but that they do not improve between the end of the first year and the end of their apprenticeship. Those results give us indications on how to build a future learning environment to improve the training of carpenters.

### **Learning journals in VET: Experimental testing of a paper-based instrument and a mobile and online tool**

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J.-L. Gurtner, University of Fribourg, Switzerland

Learning journals are increasingly used in educational research and practice. They support reflection and articulation of experiences, knowledge and performances. Although not yet implemented to a large extent in vocational education and training (VET), they are becoming used a lot in Swiss apprenticeships since every new ordinance has to integrate a learning journal. Baker and pastry cook apprentices will have to elaborate a learning journal from 2011 on. We developed a mobile and online tool to help these apprentices to realize a learning journal. This study compares the mobile and online tool with a paper-based instrument in order to evaluate apprentices' experiences with the tool. Two classes of apprentices used each one of the two learning journal instruments. First, we analyzed how apprentices judged the usability and usefulness of the tool. Results indicate that apprentices do encounter usability problems with both instruments. Nevertheless they identify potential usefulness of the learning journal, particularly when they use the mobile and online tool. The findings show that apprentices are not very much willing to use the learning journal instruments. However, when they forced to choose they prefer the technological version.

### **Providing the vocational trainees with entrepreneurial competencies: An intervention study**

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It is a fact that the rate of new enterprises is one of the most important exponents of the economical competitiveness in different countries. That is why fostering entrepreneurial behaviour is an important issue. In entrepreneurship research there is now consensus, that entrepreneurial competences and intention can be enlarged by providing training. Nevertheless, most of the research addressing the impact of entrepreneurship programs has been made with university students. Little research was conducted, focussing on training impact in apprenticeship, although most of the Swiss youths, choose this way of education. The aim of this study is to further close this particular research gap and to investigate the impact of entrepreneurship training in the dual system of education. With a pre-post-design we want to measure the impact of an entrepreneurship training providing competencies and knowledge, relevant to be an entrepreneur, on the entrepreneurial intention. The measurement is conducted with a questionnaire designed from the authors. It includes psychological variables linked to entrepreneurial behaviour, beliefs, competencies and knowledge about the theme as well as opportunities to learn. The questionnaire and the training are especially designed for the level of vocational education. The importance of entrepreneurial training is evident. Providing knowledge and competencies and through these, enlarging the entrepreneurial intention in young people of vocational education is linked to a growth in business creation and prosperity for the country.

### **Towards the future of the activity of health and safety inspectors: A contribution to the design of innovative training programs based on an analysis of emerging collective activity configurations at work**

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During fielding interventions on construction sites, health and safety inspectors must face the constantly changing work environment and conditions which make it difficult to identify the occupational risks and to follow-up the preventive measures implemented. While being confronted with a reluctance of their interlocutors who very often consider that preventative measures represent a disproportionate cost considering the transient nature of hazards on these sites, they should, on one hand, raise the rule compliance and the level of awareness of safety and health regulations, on the other develop and maintain a positive relationship with these interlocutors. The effectiveness of their work is partially due to their ability to reduce or bypass this reluctance, either through the argument on the merits of their requirements, either through the threat or the choice of sanctions. Therefore, we consider that the effectiveness of the individual activity of each inspector is determined by local articulation of his actions and those of his interlocutors.

The present paper discusses, according to Theureau semiological theory of course-of-action and Elias's original concept of social configuration, the notion of configuration of collective activity (Veyrunes, 2004; Veyrunes, Gal-Petitfaux & Durand, 2008) and analyses examples of configurations emerging from the dynamic and self-organized articulation between the inspectors individual actions and their interlocutors actions during construction site interventions.

A new emphasis in health and safety inspectorates on occupational health promotion stresses their pedagogical role and their ability to establish a cooperative dialogue with the others social actors. We discuss the contribution of our findings to the design of innovative training programs towards the future of their activity.

### **Transitions from apprenticeship training into a first significant job 1975 – 2008**

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The paper deals with the relation between apprenticeship training, training-to-work-transition and the intercourse of economic downturn, demographic growth or dwindling. The observation window covers around 30 years of West-German labour market development, starting in 1977 up to recent times. As we know from the literature labour market entrants (here graduates from apprenticeship training in West-Germany) are more vulnerable to economic and demographic change, compared to the work force in general.

However the risk is not uniform for apprenticeship graduates even within one country. Differences in individuals and regional characteristics are well reported. Recent research shows both a strong firm specific effect on individuals' employment probability and on the duration of search time after graduation from vocational training. Using process produced social security data for West Germany (IABS since 1975), both logit / probit-models and event history techniques are employed, estimating the transition from apprenticeship training into a first significant job (regular work contract: fulltime job: full entitlement to social security). A first step describes gender specific transition pattern from training to work. A second step analyses the gender specific risk of search time with in the transition from training to work and the relation between search time and business cycle. In a third step multivariate techniques are employed (mlogit and piece wise constant models) to estimate the effect of individual, firm and training specific, regional and time specific characteristics on individuals risk and duration of search time within the transition from apprenticeship training to work

### **Reflection for Apprentices in Logistics Using Augmented Paper and Tangible User Interface**

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In this paper, we describe how learning scenarios in vocational schools can be enriched by the addition of reflection sheets, augmented paper sheets designed to facilitate reflection. This interface, called TinkerSheet was initially developed as a component of a tangible learning environment, enabling apprentices to see visual feedbacks and to control parameters of the system. We reflect on the shortcomings of TinkerSheet to support reflection and how to redesign it for this purpose. The resulting sheets can be used in different learning scenarios across different settings: individual, group, at school and at workplace.

### **The transition from school to work in the context of the Swiss dual vocational education and training system: socialization into a profession and into the workplace**

B. Duc, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

In Switzerland, vocational education and training systems are the pathways most followed by young people after compulsory school. The majority engages in the dual system of VET that combines periods of learning and work in three environments: vocational schools, enterprises and training centres. This often constitutes the first encounter between young people and the world of work. This initial contact seems to have become a matter of concern in Switzerland and in the canton of Geneva, the context of our study: high level of exam failures, frequency of nonlinear trajectories, non-completions of apprenticeship, reorientations and dropouts from the system.

From this observation, our contribution tries to highlight how the dual system supports the complex process of transition from school to work and prepares young people not only to a specific occupation but also to the workplace. Who supervises them and how? How are they socialized and what are they socialized into? What are the roles and places offered to them? What do these roles and places mean in terms of learning and socialization processes? To address these issues, we propose to analyze ordinary training situations and refer to a set of audio-video data documenting the activities of different apprentices in the three contexts composing the Swiss dual VET. Our analysis focuses on the verbal and non verbal interactions apprentices engage in with the different actors they meet – teachers, tutors, experienced workers, colleagues.

This analysis allows us to reflect on learning and professional socialization processes in VET situations. It enables to underline the various factors at play in these processes: apprentices' engagement in different environments, their supervision and the resources at their disposal, identity issues. Through our analysis, we try to stress how an analysis of ordinary training situations and a focus on interaction contribute to a better understanding of transitions from school to work.

### **Track Choices and Schooling Inequality in Switzerland**

J.-M. Falter, University of Geneva, Switzerland

We investigate the impact of family background variables on upper secondary transitions in Switzerland, and their subsequent impact on educational inequality. Transitions to upper secondary education may shape inequalities in countries such as Switzerland, characterized by early tracking and an extensive vocational track. Yet, the recent expansion of "university of applied sciences" (i.e. tertiary vocational schools) may have mitigated the impact of schooling decisions made at the age of 15 years. We make use a unique database, TREE, which consists in a follow-up of individuals first surveyed in the Swiss sample of PISA 2000. We can observe upper secondary school choice and subsequent transitions up to tertiary education, jointly with cognitive ability and family background variables. We show that parental background variables have little impact on school transitions for individuals at both end of the ability distribution, which is evidence of efficient sorting of the schooling system. Our results suggest that transitions towards upper secondary education are the most important transitions explaining educational inequality, conditional on parental background. This is due to the relatively low rate of transitions between secondary VET and university of applied sciences.

### **Job Tenure and VET: Too Much of a Good Thing?**

J.-M. Falter, University of Geneva, Switzerland  
S. Weber, University of Geneva, Switzerland

The economic literature on job tenure is often related to issues such as job stability or the evolution of so-called "lifetime jobs" in the economy. Obviously longer tenures are associated with positive outcomes as they are indications of a lower propensity to fall into unemployment. Yet, shorter tenures are not always detrimental as they may be associated with greater career opportunities as workers may move to better jobs. This point is especially important with regard to secondary vocational education and training (VET). In Switzerland, workers with VET degrees have longer tenures compared to individuals with other forms of education. One may hastily conclude that VET provides ones with job specific human capital, thus improving the job match and making it easier to retain one's job. This interpretation overlooks the fact that job separations could be quits or layoffs. Thus longer job tenures observed for VET degree holders could be due to the following reasons: better job matching through specific human capital, higher mobility costs or occupation specific effects. In other words: are longer tenures for VET degree holders really a good thing or does it reflect labor market difficulties?

In this paper, we investigate tenure on data drawn from the Swiss labor force survey (SLFS). We make of duration models, a methodology particularly well suited to the analysis of tenure spells as it allows retrieving information from all observed job-spells, completed or not. The heterogeneity of VET is captured by the occupation in which studies took place. Finally, hazards of job terminations are estimated by different destination states such as a new job, unemployment, training and inactivity. We also contribute to the literature by investigating jobs up or down-grading.

**Workplaces as learning environments: evidence from the Swiss dual VET system**

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The Swiss VET system is strongly shaped by the assumption that there exist strong links between occupational practice and vocational learning. In comparison with other European countries, apprentices enrolled in a “dual” training program spend a substantially greater proportion of their time in workplaces, where they carry out real work related tasks and experience the complex requirements associated with productivity and employment. To a large extent, this practice-based approach to learning is often acknowledged positively and seen as a key principle for securing employment and supporting smooth transitions from school to work. Nevertheless, over the years, there have been ongoing debates regarding the suitability of workplaces as learning environments: Are workplaces adequate sites for learning when it comes to train apprentices? Are apprentices sufficiently prepared to face the complex expectations of productive work tasks? Are ordinary workers sufficiently competent to exert an adequate supervision of apprentices in the workplace? Consistent with a social and cultural account of learning, this paper aims to contribute to a better understanding of the conditions for efficient workplace learning in Swiss training companies. It does so by referring to a recent research project 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 addressed by developing and using methodologies borrowed from applied linguistics. In this paper, the main objectives, methodological orientations and key findings of this research program are discussed and the potential and limitations of practice-based models of training in VET critically appraised.

**Cost and benefit of two-year apprenticeships in Switzerland**

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J. Schweri, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

In 2005, Switzerland introduced the first two-year apprenticeship programs with Federal VET certificate. These dual VET-programs focus on young people with academic learning difficulties and aim at increasing the share of those concluding a post-secondary education. This certificate is standardised and also opens the way for a shortened programme for the Federal Diploma and so gives access to lifelong-learning. The first programs have been introduced in the hotel and restaurant industry, in the retail trade and in the automobile industry. The cost-benefit ratio is an important determinant for the willingness of firms to train. Studies for three- and four year programs showed that for a majority of Swiss firms, the benefit exceeds the cost already upon completion of the training period. For two-year programmes, no data were available until now. From a theoretical standpoint, the outcome is unclear. Two year courses could be more expensive due to a higher training effort that has to be made for the youth with learning difficulties. But also the opposite is thinkable: The profile of these programmes is much narrower than those of regular three- or four-year-courses. This could mean that apprentices can be productive earlier and faster, which would lead to higher benefits. Which one of these effects prevails is unclear and has to be tested.

Our sample consists of 409 training firms in 11 different training occupations and the data were gathered by means of an online-survey. The results show that, on average, the value of the productive output of apprentices slightly exceeds the gross costs. However, there are major differences between the different training occupations. The paper will give a detailed insight into these differences and a thorough comparison with the three- or four-year counterparts of each training occupation.

**Indices oriented computer-supported writing activities fostering professional procedures learning in vocational education**

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M. Bétrancourt, University of Geneva, Switzerland

D. Schneider, University of Geneva, Switzerland

Funded by the Swiss Federal Office for Professional Education and Technology, the X project aims at developing technology-enhanced learning designs that will help to reinforce the articulation across the different training places in vocational education.

A central issue in vocational education is the acquisition of professional procedures. Cognitive research has shown that the identification, correct interpretation and utilisation of the contextual indices facilitate procedure acquisition as well as transfer. An experimental study was designed to assess whether computer supported writing activities oriented towards the identification of pertinent contextual indices could reinforce and foster memory for professional skills. The participants were dental care apprentices who participated on a voluntary basis. After viewing a video including errors in a professional procedure, apprentices had either to write a plain description (control condition), or to write a description of the errors and their contextual indices (experimental condition). The findings showed that apprentices in both groups identified contextual indices in their description, while the experimental group gave more explanations of the sources of errors than the control group. However, no differences were found in the knowledge post-test.

The results are discussed in terms of design issues for writing-to-learn activities in vocational education.

**Career Entry and Success after Tertiary Vocational Education**

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U. Backes-Gellner, University of Zurich, Switzerland

With the general labor market trend towards higher education and training requirements, tertiary education becomes more and more important. However, educational systems differ in terms of favoring specialized, vocational education or general, academic education. In this paper, we study how the type of tertiary education (i.e., vocational or academic) influences individual career entry after graduation based on educational screening. Our results show that vocational graduates have a lower unemployment risk, more favorable job characteristics and a lower earning risk at career entry than academic graduates, but also a lower income expectation. Employers seem to favor tertiary education with a practice-oriented approach, as this reduces uncertainty about the employee's skills and ability at career entry. In the medium-term, initial screening effects fade and productivity effects prevail as only income differences still exist. Attending vocational tertiary education is thus the natural career path of vocational secondary education graduates. It seems that universities of applied sciences optimally meet the challenge of providing students with both the specific vocational skills to be productive at work and the general academic skills to be prepared for further learning.

### **Austrian Corporatism and Institutional Change in the Relationship between Apprenticeship Training and School-based VET**

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L. Lassnigg, Institute for Advanced Studies, Austria

J. Powell, WZB Wissenschaftszentrum Berlin für Sozialforschung, Germany

Austria's vocational education and training system displays a unique structure joining a strong dual apprenticeship system with a robust full-time school-based VET. This school-based trajectory has deep historical roots and considerably influences recent reforms in apprenticeship. Current dynamics in the Austrian skill formation system are here explained by an historical institutionalist account focusing on the power relationship between the state, trade unions, and employers. However, we also find differences within the employers' camp depending on firm size. The particular mix of school-based and the apprenticeship pathways in the Austrian VET system are strongly influenced by small state corporatism; however, this influence is challenged by the rise of state-provided, school-based VET. Further crucial factors impacting the evolution of apprenticeship are centralized federalism, privatization of large firms, and accession to the EU. Applying process tracing methods, we identify 'layering' and 'drift' as the dominant modes of institutional change in Austria's VET system.

### **Youth at risk? Training situation and employment perspectives of young people after a two-year basic training course with the Swiss Federal VET Certificate**

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C. Hofmann, University of Applied Sciences of Special Needs Education, Switzerland

In Switzerland the old "VET elementary training" programme was replaced by a two-year basic training programme with a Federal VET Certificate. It provides a greater standardization of training contents and objectives and should thus improve the employability of graduates and increase passage to further training. Various parties have suggested, however, that a number of youths are unable to meet the new demands and their occupational integration is therefore at risk.

In a first longitudinal study (2006-2009) we investigated the vocational paths of learners in the two occupational sectors of gastronomy and retails (N=319). In a second, ongoing study we study two other sectors, home economics and joinery (N=206).

The following questions were addressed:

1. What type of youth (with respect to school background, social background etc.) graduates from a basic training programme with Federal VET Certificate?
2. How do they experience and gauge their training (pressure in school and training establishment, level of satisfaction with training)?
3. How does their professional situation look following graduation from the training programme (employability, mobility)?

For the first two questions the results show some noticeable differences between the various occupational sectors. Especially the home economic sector seems to be a pathway to a training certificate for academically weak young women.

Regarding the third question the results of the first study prove that the two-year basic training in the retail sales and gastronomy sectors increases passage to further training, most particularly to the three year training programme with Federal VET Certificate. They exhibit greater mobility than those elementary trainees in the same occupational field. Results of the ongoing second study will be presented at the VET-Congress.

### **How epistemic beliefs influence e-learning in daily work-life**

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H. Gruber, University of Regensburg, Germany

H. Hertrampf, University of Ulm, Germany

Epistemic beliefs comprise the individual understanding of the nature of knowledge and the creation of knowledge. Hence, they impact the perception of learning opportunities and professional learning activities. Many enterprises apply computer technology in order to support staff development through e-learning activities. However, a closer look at the practices of e-learning reveals that only rarely the potential of educational technology for professional learning is fully utilised. Frequently it is neglected that employees' subjectivity - in particular their epistemic beliefs - determines their ways of using educational technology for self-directed learning activities. This contribution reports and discusses empirical findings which indicate that employees' epistemic beliefs impact the quality rather than the amount of professional e-learning. The conclusions offer new impulses for the study of knowledge management.

### **Measuring Occupational Competence - the COMET project**

L. Heinemann, University of Bremen, Germany

The COMET project - large scale competence diagnostics for electrical occupations - was already presented in a session of the 2008 VET congress. This session focused on the competence and measurement model, associated instruments on commitment and vocational identity, and discussing the specific idea of using open test tasks to measure occupational competence.

Since then, the project has been conducted in with over 800 apprentices in the German *Länder* Hessen and Bremen and been enlarged in scale and scope to German technical colleges as well as China.

After a short introduction to the test approach and the measurement model, this session will focus on three findings: heterogeneity of competence levels as well as profiles, competence differences between different technical colleges, and the use of the COMET approach as a learning model in VET schools.

### **Educational services in 2020 and related needs for professional development**

K. Helling, University of Innsbruck, Austria

J. Proinger, Austrian Institute for Vocational Education Research, Austria

The study analyses future trends and expected developments of society and its impact on the demand of educational services and related professional development in various education sectors in Austria. A scenario approach is combined with a Delphi survey to support the identification of educational services required to meet the challenges of future society. An increasing demand of professional educational services and extension of related occupational tasks is expected for all educational fields and is conceivable on the basis of reasonable resource distribution, quality management and legal frameworks. Educational professionals need generic competences for dealing with the future development of society and education, as well as core competences and supplementary competences, which are relevant in a specific educational sector. Adequate vocational training and continuing education of professionals in all educational fields is required for meeting future challenges of educational services in the context of lifelong learning.

### **Self-Selection into Teaching in Vocational Education and Training (VET)**

Stefanie Hof, SKBF, Switzerland

Mirjam Strupler, University of Berne, Switzerland

Stefan C. Wolter, University of Berne, Switzerland

Researches on the effectiveness of educational systems highlight the importance of good teachers for a good quality educational system (Hanushek 2008). Thus, for the quality of vocational education and training (VET) it is crucial to dispose of information about teachers in VET and who opts for a career in VET teaching. Consequently, the questions who is selecting into teaching in VET and what are the motives to become a teacher in VET are important, in particular for educational policy. Analyzing these questions we have to take into account that for VET teachers the decision is rather a second choice and therefore rather an occupational change than an occupational choice

In collaboration with the Swiss Federal Institute for Vocational Education and Training (SFIVET) we surveyed teachers who were in training at the SFIVET in summer term 2010 (March to May 2010). We will match our dataset with Swiss Labour Force Survey (SLFS) data by taking into account background characteristics (e.g. age, gender, nationality, language, marital status, children, and region), education, occupation (e.g. field, attainment, experience, firm size) as matching criteria. This allows us to compare teachers with similar individuals (same ex ante probability to become a teacher) who did not choose to become a teacher. Conditional differences in wages may give evidence, who is selecting into teaching and if the selection is positive or negative? Quality of workers sorting into teaching might differ between occupations, which could be an explanation for scarcity of teachers in certain fields. Disparity between full-time and part-time teachers could also be used as recommendations for VET schools in their recruitment process.

By November 2010 we expect first results; a first draft of the paper is planned for February 2011.

### **Organization of apprenticeship and equal employment opportunity. Do training networks enhance fair hiring practices?**

C. Imdorf, University of Basel, Switzerland

R. J. Leemann, University of Applied Sciences Northwestern Switzerland, Switzerland

This study investigates whether occupational training networks enable the selection of apprentices to be less discriminatory. Training networks are a new organisational form of VET that is becoming increasingly widespread in Switzerland, as well as in Germany and Austria. In the Swiss model, an intermediary lead organisation recruits the candidates. It also attends to the apprenticeship itself and effects a placement of the young adults with the training network companies every year anew. The study is based on the sociology of conventions, which allows organisational mechanisms of selection in training institutions to be understood and the dangers of discrimination harboured therein to be appreciated. Based on a case study of a medium-sized training network, the study shows how this form of organisation permits a fairer selection, i.e. one that is gauged more by performance and less by social attributes of the applicants, as compared to selection processes in single SMB.

### **The short and long term consequences of early labor market transitions.**

S. Janssen, University of Zurich, Switzerland

This paper investigates the short and long term income losses of young workers, displaced during mass lay-offs, over a period of more than 15 years. Using a linked employer-employee data set, we decompose displacement losses at different quantiles of the income distribution. We find that long term income losses are largely attributed to workers endowments. Displaced workers have lower experience and are more likely to end up in low income occupations or industries than young workers who have smoother transition into the labor market. This indicates that lock-in effects or career path dependencies play a role after a young workers job loss. In contrast, short term income losses are mostly attributed to price effects. Moreover, displacement losses at the lower tail of the distribution are double the income losses at the upper tail. Displacement losses of low income workers are long lasting and mostly explained by differences in their experience or industry and occupation. Income losses of high income workers are short-dated and mostly attributed to price effects.

### **Two-year apprenticeships – a successful model of training?**

M. Kammermann, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

B. Stalder, Institute of Work and Organisational Psychology, University of Neuchâtel, Switzerland

A. Hättich, University of Applied Sciences of Special Needs Education, Zurich, Switzerland

Educational policy is asked to support young people in their successful transition from education to employment. In Switzerland, aiming at increasing the employability of low achieving school-leavers, the two-year apprenticeship with Basic Federal VET Certificate was established in 2002. It is a low-threshold VET programme offering standardised vocational training to 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 two Swiss longitudinal studies including a sample of 289 trainees on a two-year training course and a sample of 118 graduates on a three-year training course in the retail sales and hotel sector are used to study the success of the two-year apprenticeship from a comparative perspective. The findings confirm that the new apprenticeship offer favourable learning opportunities, which foster employability and upward mobility after graduation. Limitations of the findings include the least successful learners who cannot profit from the new form of apprenticeships

### **Young people's gendered occupational choices at the transition to vocational training: The role of parents' sex-typed ability beliefs, individual aspirations, and institutions**

I. Kriesi, University of Zurich, Switzerland

M. Buchmann, University of Zurich, Switzerland

Young people's gendered occupational choices are partly responsible for sex-segregation in the labour market, leading to unequal opportunities of young men and women. The choice of sex-typical occupations is particularly pronounced at the transition into vocational training. This transition is characteristic of dual educational systems prevalent in Switzerland or Germany.

Current sociological theories (Charles & Bradley, 2009; Ridgeway & Correll, 2004) consider gender-essentialist stereotypes and beliefs about innate gender differences in abilities, held by young people and gatekeepers (e.g., parents, teachers, or employers), as important causes for gendered occupational choices and allocation

processes. However, the exact mechanisms leading to gender-segregation at the transition into vocational training are still underexplored. Little is known about the role of gendered ability beliefs and aspirations vis-à-vis academic qualifications, which serve as institutionalized selection criteria of trainees. Against this background, our paper examines whether parents' gender-typed ability beliefs, adolescents' own values and aspirations as well as academic qualifications affect the probability that young people train in a gender-typical occupation at the age of 18. We extend previous research by distinguishing between two different types of male and female occupations. Our analyses make use of the Swiss Survey of Children and Youth COCON, a representative longitudinal study including a cohort of adolescents. The respondents were 15 and 18 years old at the time of data collection in 2006 and 2009 (N=952). The data also includes information from primary caregivers. Results are based on multinomial regression models run separately for men and women. They show that specific aspects of parents' gender-typed ability beliefs promote the choice of different types of male or female occupations. In addition, gendered aspirations as well as educational qualifications are important explanatory factors. The latter highlights the role of institutional allocation processes in explaining occupational gender segregation at the transition into vocational training.

#### **Online or offline evaluation of continuing training courses for VET/ PET professionals: Does the choice of medium have an influence on data quality?**

E. Lupper, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

L. Balzer, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

The responsibilities of SFIVET's Evaluation Unit include the evaluation of all SFIVET's basic and continuing training courses.

In the pilot phase leading to development of a programme to evaluate SFIVET's continuing training courses for VET/PET professionals, SFIVET took the opportunity to examine whether there is any difference in response rate and data quality between having participants complete a paper and pencil questionnaire (paper survey) or an online questionnaire (web survey).

Within a given semester, continuing training courses (mostly one-day refresher courses) were assigned either to a "web survey" or "paper survey" group. This was done randomly, controlled by a few structural variables (e.g. course length and type).

In paper survey condition, participants completed the questionnaire on site immediately at the end of the continuing training course. In web survey condition, participants received an e-mail at the end of the continuing training course (at the same day, a few hours after finishing) asking them to take part in the evaluation. Participants received an e-mail message ten days later to remind them to fill in the questionnaire if they had not already done so.

Preliminary results show that average response rate of 84% for the web survey is relatively high, but about 10% lower than in the paper survey condition. Comparisons of item-based means between the two subsamples show that respondents who completed the online questionnaire were systematically more critical in their evaluation. Further analyses on the basis of the definitive sample should show whether initial findings can be confirmed and explained. From an evaluation practice perspective, the main question to be answered is whether data quality generated by web survey, as a more cost-effective method, is reliable enough for evaluating continuing training courses for VET/PET professionals. Furthermore, structural validity of evaluation-scales in the two conditions has to be compared.

#### **Capturing Workplace Situations to be Exploited at School**

E. Motta, Swiss Federal Institute for Vocational Education and Training, Switzerland

A. Cattaneo, Swiss Federal Institute for Vocational Education and Training, Switzerland

Learning is a contextually and socio-culturally shaped process (Eteläpelto, 2008) and is conditioned by the learner's engagement and the affordances he/she finds on site (Billett, 2001). This is particularly true for Vocational Education and Training (VET), where apprentices experience multiple learning contexts and have to connect them into a whole. Using technology as means to capture professional situations experienced at the workplace in order to exploit them at school as learning material – maybe hypermedially enriched by the teacher – could have a positive impact on and facilitate the development of professional competences, which is the main learning outcome in VET. On this subject, a preliminary study conducted with car mechanics apprentices in Switzerland is presented here to exemplify this cross-contexts dialectic.

#### **Hiring Costs of Skilled Workers and the Supply of Firm-Provided Training**

S. Muehleemann, University of Bern, Switzerland

M. Blatter, University of Bern, Switzerland

S. Schenker, University of Bern, Switzerland

S. C. Wolter, University of Bern, Switzerland

This paper analyzes the effects of hiring costs for skilled workers on the firm's supply of training positions. Much of the empirical evidence on labor adjustment costs points towards a convex relationship between hiring costs and the number of hires. Therefore, internal training of young unskilled workers might be an attractive alternative for firms to reduce the share of external hiring. Our results provide evidence that some firms indeed find it profitable to invest in costly training in order to reduce total hiring costs of skilled workers. A possible implication of our results is that firms are more willing to offer training positions if labor markets are strongly regulated, as labor market regulations tend to increase hiring costs, since firms have to invest more in their hiring activities in order to avoid costly mismatches.

#### **The consequences of being different – Statistical discrimination and the school-to-work transition**

B. Mueller, Swiss Federal Institute for Vocational Education and Training, Switzerland

S. C. Wolter, University of Berne, Switzerland

When information about the true abilities of job-seekers and applicants are hard to get, statistical discrimination by employers can be an efficient strategy in the hiring and wage setting process. But statistical discrimination can induce costs, if labor relations cannot be terminated in the short term and wages are fixed over a certain period. It is therefore interesting to know, by how much employers rely on easily observable characteristics and by how much they are influenced by hard to get information in their actions. In this paper we use a unique longitudinal survey that follows the PISA 2000 students in their educational and work-life career. We test whether deviance in the PISA test scores from what one would have predicted based on observable characteristics, influences the probability to succeed in the transition from compulsory school into a firm-based apprenticeship and the probability to get an apprenticeship contract in a profession with higher intellectual demand. Our results suggest

that hard-to-get information plays a significant role in the transition, but in an asymmetric manner. Underachievers, students with test-scores significantly below their predicted group mean, face disadvantages in the transition, whereas overachievers do not seem to realize profit from their positive deviation

### **People with Migration Background as Ascenders: Factors of Success in Vocational Training and their Way into Professional Work.**

M. Niederhauser, University of Fribourg, Switzerland

S. Leumann, University of Fribourg, Switzerland

J. Kost, University of Fribourg, Switzerland

M. Stamm, University of Fribourg, Switzerland

The presented three-year longitudinal study gives up on the deficits-oriented point of view which is predominant for working on the migration issue. It is the first quantitative study to analyze in this way the conditions for the work success and the way into professional work of people with a migration background who have completed their vocational training with particular success. The project is based on five theoretical explanation patterns for the educational outcome of migrants. They are explanations of cultural deficits, human capital-theoretical approaches, as well as explanations based on features such as school, institutional discrimination or the resilience concept.

Based on the result of the final examination 1614 graduates in the German-speaking part of Switzerland were selected and contacted with a written questionnaire. On the basis of the returned questionnaires (N=757) the groups „people with migration background“ (N=301), which consists of former trainees, of those at least one parent was born abroad, as well as the comparison group „natives“ (N=452) were created.

The successful former trainees with migration background are descended from different cultural backgrounds. Compared with the native ones they are over-represented both at the upper and at the lower end of the scale concerning the education of the parents. Parents of successful former trainees with migration background have significantly higher education expectations towards their sons and daughters than native parents. On basis of the first analysis it can be held that there are successful trainees with migration background in the vocational training, which corresponds to the picture of the “ideal trainee” to a large extent: no early apprenticeship contract termination, high enthusiasm for and identification with the occupation as well as a positive attitude towards vocational training school.

### **Collaboration for guidance: designing effective workplace learning between college and enterprise**

L. FM Nieuwenhuis, University of Tilburg, The Netherlands

D.-J. Nijman, IVA, University of Tilburg, The Netherlands

The Netherlands possess a unique system for vocational education and training: the mixed model. In this model an apprenticeship system and a school based system for VET work as communicating vessels: when economy is booming the apprenticeship system is growing, whereas during economic crises the school based system is taking over.

Dutch colleges for VET have to collaborate with the enterprises and labour organisations in their regions, in order to deliver high quality VET with a strong labour market impact for their trainees. Collaborative guidance of

workplace learning trajectories is a big challenge in VET innovation at this moment, both in institutional as well as in educational way.

The paper presents a field study of the impact of different models for collaborative guidance used by six VET-colleges and the Dutch police academy. These colleges cooperative in a national consortium for delivering evidence based models for workplace learning.

An actor network approach is used to describe guidance models during four stages of workplace learning (PIRA: preparation; initiation, routinisation and assessment); the impact on competence development will be assessed in a pretest–posttest design for four classes on each colleges (expected N = 600). Data collection will take place during September 2010- January 2011. At the congress in Bern first results of the analyses will be presented.

### **The Permeability between Vocational Training and Higher Education in Austria, Germany and Switzerland?**

R. Nikolai, Social Science Research Centre, Germany

C. Ebner, Social Science Research Centre, Germany

In Austria, Switzerland and Germany the respective systems of dual vocational training are differently connected to higher education. With their introduction of a vocational certificate, which is also giving access to higher education Austria and Switzerland have built bridges between the system of vocational training and the system of higher education. To date, in Germany such an institutional nexus does not exist. Our analyses reveal that this is not just grounded in small and big firms' different interests. Rather is it the country-specific embeddedness of dual vocational training systems in the overall context of the education system. This embeddedness influences firms' interests and preferences. Reform impulses pushing the introduction of double qualifying certificates in Austria and Switzerland are above all the following two: First, the dual vocational training system was not attractive for good and very good youths and second, the increasing quantitative relevance of general secondary school education in Switzerland as well as an attractive full-time school based vocational education in Austria.

### **Professional identity and professional profiles in the socio educational assistant (SEA) profession**

V. Perriard, University of Applied Sciences Western Switzerland - Social Work, Fribourg, Switzerland

D. A. Castelli Dransart, University of Applied Sciences Western Switzerland - Social Work, Fribourg, Switzerland

Following the new VET legislation that came into effect in 2004, a new VET training “socio-educational assistant” (SEA) has recently (2005) been introduced. It brings an important change to the field of training in social studies in the French-speaking part of Switzerland, as it is the first social work training available at the upper secondary level of education (basic vocational education). Until then, all the social work professions were taught at the same and superior level, the tertiary level (universities, universities of applied science, colleges of higher VET). The first SEA graduates have entered the labour market in the summer of 2008. What is professional identity in the SEA profession? Which professional profiles are valued and status-enhancing in this new profession? This paper presents the first findings of an ongoing empirical qualitative study (2009-2011) that explores professional identity and professional profiles in the new SEA profession. The study's aim is to grasp the components of professional identity and their contents, based on the collective representations of three different groups of actors: SEA practitioners, their colleagues and employers. Approximately 30 semi-focused personal interviews were carried out with these different types of informants. The first findings will present different

perspectives on the SEA professional identity at an early stage of its development and on the SEA professional profiles, and point out similarities and differences between the standpoints of the concerned actors. The preliminary results will also point out some issues and challenges that emerge from the construction of professional identity in this new profession.

### **How specific is German apprenticeship training?**

H. Pfeifer, BIBB Bundesinstitut für Berufsbildung , Germany  
G. Schönfeld, BIBB Bundesinstitut für Berufsbildung , Germany  
F. Wenzelmann, BIBB Bundesinstitut für Berufsbildung , Germany

In this paper, we calculate a monetary value of the firm-specific component of German apprenticeship training. We do this by comparing initial productivities and wages of externally recruited and internally trained workers in the same job, occupation and firm. We argue that the resources needed to increase productivity of externally recruited to the level of internally trained workers is an adequate measure for the firm-specific training component. We then calculate the share of the firm-specific component in the gross training investment of firms. Our results support the view that German apprenticeship training is mainly general with shares of the specific component reaching from 4 to 10 percent of gross training investments, depending on the occupation trained.

### **Cultural diversity, gender and integration of difference in VET**

B. Pfister Giauque, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland  
E. Flamigni, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

The paper entitled “Cultural diversity, Gender and integration of difference in VET” explores the issue of teachers’ competences and conceptions regarding the integration of qualitative and quantitative minorities. By focusing on teachers’ everyday practices, on the tools which they acquire during their education or which they develop based on their teaching experience, this project aims to increase the level of knowledge of what is done – or what is not done - regarding the issues of awareness and consideration of diversity in vocational education and training.

### **Issues of meaning involved in the information & advising's phase for the VPEL**

D. Salini, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland  
M. Durand, University of Geneva, Switzerland

This contribution is part of a research on: i) the function of initial information-advising on validation of prior experiential learning (VPEL) procedure, ii) the nature of the activity during the information-advising intervention. Our goal is to better understand the work of advisers in this area, generally ignored and poorly studied. From the perspective of activity's semiology, we will present the salient results of a field survey carried out in a Swiss Information Centre for the VPEL. The situation of initial information-advising will be described and discussed by focusing on: i) the process of experiential pre-configuring during interaction, ii) the problems of collective meaning building that may arise during consultants - candidates interaction.

### **Professional Development of Vocational School Teachers through Peer Classroom Observations and Feedback?**

P. Salzmann, University of Fribourg, Switzerland,  
F. K. Oser, University of Fribourg, Switzerland

We raise the question of how professional development (PD) of VET teachers can be initiated and supported at the workplace, in the sense of in-service-training. Teachers’ PD is a key factor for quality assurance and development of training in vocational schools. It’s not terminated by the acquisition of teacher education, but must span the entire career. Classroom observations and feedback among teachers (“kollegiale Unterrichtshospitationen”) is one instrument commonly used at Swiss vocational schools. It is directly situated in classrooms and can be considered meaningful within the framework of the collaborative learning concept. However, there is little empirical evidence for its effectiveness. In a first step, we address the research questions on how and under what conditions peer classroom observations and feedback are practiced at Swiss vocational schools, how well this practice fits characteristics of effective professional development, what school principals aim at implementing this instrument and what effects VET teachers report it to have. It is assumed that VET teachers can be allocated to different levels of a hierarchic model of manner and intensity of use of peer classroom observations and feedback, which differ in terms of effectiveness. In a second research step, the elaborated hierarchic model is empirically proven and correlations between its different levels and characteristics of the VET teachers as well as the perceived effectiveness are examined. In this presentation we focus on the results of a preliminary interview study, conducted with 17 school principals and 12 teachers of the biggest Swiss vocational schools. The results form the fundament for a survey among 300 VET teachers. We expect VET teachers to differ in terms of frequency, regularity and duration of use, specificity of the focus of observation, degree of processing depth (inclusion of theory and external expertise) as well as the manner and degree of perceived effectiveness.

### **Fostering metacognitive learning strategies of apprentices in lower level VET programmes**

U. Scharnhorst, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland  
N. Kipfer, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland  
N. Grolimund, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

In Switzerland, apprentices with learning difficulties attend less demanding dual VET programmes. Their difficulties are related to poor academic performance which may be influenced by a generally lower level of cognitive functioning. Typically, they are rather passive learners showing poor metacognitive regulation when learning at school or at work. In a previous research such apprentices became more active and performed better in mathematical problem solving and text comprehension after a metacognitive training at vocational school (Berger, Kipfer and Büchel, 2010).

The present project builds on metacognitive theory and respective trainings (e.g. Büchel & Büchel, 2009) but the learning and problem solving strategies to be trained are embedded in industry courses of car mechanic assistants. These are block-released courses in special centres which combine and complement work-based and school-based learning to support the acquisition of occupational knowledge and skills. The embedded training is expected to foster the trainees’ use of cognitive and metacognitive learning strategies. It should further enhance the trainers’ efficacy in providing differentiated forms of support and guidance.

A design-based research approach (e.g. Barab & Squire, 2004) with several steps is followed:

- 1) The setting and the practices of teaching and learning in industry courses were explored (field notes, videotapes).
- 2) Trainers answered a questionnaire about their instruction and their perception of the trainees' learning difficulties.
- 3) Strategies and forms to mediate them were developed with trainers who will
- 4) implement them in pilot courses.
- 5) The implementation and the effects of the trainings on the trainees and trainers will be evaluated with qualitative and quantitative methods.

Results of the field observations and the questionnaires will be presented. Further, we will highlight the development and the principles of the training. As the implementation phase will still be running, its results cannot yet be presented at the congress.

### Identifying influencing factors of good teaching enables to develop SFIVET formation scientifically

T. P. Schnoz-Schmied, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland  
L. Balzer, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

The Swiss Federal Institute for Vocational Education and Training (SFIVET) evaluates its formation-modules to support quality and continued development. In addition to estimating teachers, module participants are asked to judge aspects related to students as well as to the module 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 development of competences. That's why SFIVET students also estimate their own competencies at the beginning and in the end of a module. In this study, measured change in self-reported competencies is used as an indicator for the development of competencies.

In this paper, we examine the extent to which the two quality criteria of good teaching are related to each other and how these two quality criteria can be explained by influencing factors.

First results show that there is only a small correlation between the two quality criteria ( $r = .22$ ,  $p < .01$ ,  $df = 164$ ).

Our results fit to Braun & Leidner (2009). Furthermore, influencing factors have a pretty large impact on satisfaction ( $R^2 = .77$ ), but a much smaller one on self-reported development of competencies ( $R^2 = .06$ ).

Furthermore, we show how results of module evaluation are used to support the continued development of modules and how evaluation will be conducted in the future. As part of the discussion, we welcome any feedback and ideas regarding proposed aspects of SFIVET's module evaluation.

### Can a standardized aptitude test predict training success of apprentices? Evidence from a case study in Switzerland

M. Siegenthaler, KOF-ETH, Switzerland

Due to a widely spread distrust in the information quality of school grades, employers require external, standardised aptitude test information, when recruiting new apprentices. In Switzerland, employers rely on only a couple of these external tests and very often require applicants to provide tests results already with their applicants' dossier. However, to our knowledge, the predictive quality of such test results has never been

thoroughly researched. From existing research (e.g. Imdorf, 2009), we know that employers attach a high importance to information that predicts the applicants success in vocational school during apprenticeship, as school failure is one of the most important reasons for drop-out from apprenticeship – which in turn is not only painful for the prospective apprentice but also costly for the training firm. We therefore analyse in our empirical paper, whether test results from external aptitude tests can improve the quality of predicting the success in apprenticeship training. We find that such information is a) not correlated with school marks at the end of compulsory schooling but b) does not add information that would explain either the success in VET schooling (school grades in the first and second year of apprenticeship training) or the likelihood of a premature ending of the apprenticeship contract.

### Varieties of Capitalism and its implications on the organizational structure in engineering plants in the USA, Switzerland, the UK and Germany

S. Teuber, University of Zurich, Switzerland  
U. Backes-Gellner, University of Zurich, Switzerland  
P. Ryan King's College Cambridge, United Kingdom  
K. Wagner, HTW Berlin, Germany

This project analyzes the effect of institutions specified in the “varieties of capitalism” approach and measured on national and company level on the organizational structure (i.e. the span of control of production supervisors) of matched-pair engineering companies in the USA, Switzerland, the UK and Germany. Using establishment data gathered by interviews we find that companies in coordinated market economies have a larger span of control than in liberal market economies. The method of qualitative comparative analysis (csQCA) enables us to identify various combinations of company-specific institutional settings that are linked to the high (low) control spans and specify necessary conditions within these settings. We show that it is necessary to analyze the shape of institutions on firm level (not only on country-level) as companies have various spheres of influence within a country-specific institutional framework. The spheres of influence, however, are very small in the US.

### Skills and Industrial Relations: Continuing Vocational Training in Denmark, the Netherlands, Austria, and Switzerland

C. Trampusch, University of Berne, Switzerland  
P. Eichenberger, University of Berne, Switzerland

On the basis of an in-depth analysis of the role of sectoral collective agreements in continuing vocational training (CVT) in Denmark, the Netherlands, Austria, and Switzerland, this paper offers the first systematic study of the institutional and political conditions under which collective agreements finance and organize CVT. Combining Mill's methods of agreement and difference with pattern matching, the most important finding of the paper is that the research on the development of political-economic institutions in coordinated market economies has to analyse more carefully how state activities and the behaviour of small and medium sized firms affect the coordination of economic activities in skills formation. Furthermore, the literature should pay increasing attention to strong traditions of sectoral social partnership as being a functional equivalent to state support for collectively negotiated CVT systems.

### **Should I stay or should I go for a RN degree? Career decisions of Swiss qualified carers**

I. Trede, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

J. Schweri, SFIVET Swiss Federal Institute for Vocational Education and Training, Switzerland

**Objectives:** The aim of the paper is to analyze the career decisions of Swiss qualified carers upon graduation, namely whether they intend to go on to higher education in order to receive a registered nursing degree.

**Background:** Considering the severe nursing shortage, career decisions of vocationally qualified carers are of primary importance for the analysis of skill needs and developments in the healthcare sector. Vocationally qualified carer is a relatively new education of three year duration on upper-secondary level. Graduates can directly enter education tracks leading to a RN degree and thus need to decide whether to opt for this opportunity or to continue working as qualified carer.

**Design:** A prospective, cross-section survey was administered to a full cohort of qualified care students in their last study year in the Canton of Berne (n=284).

**Method:** Multivariate methods (logistic regression) are applied in order to take into account many different and possibly correlated factors explaining career decisions.

**Results:** One third of qualified care students intend to work in their learned profession directly after graduation, while another third intend to begin a nursing education. The rest opts for other solutions, mostly working or begin an education in another healthcare profession. Multivariate results show that personal characteristics, experiences during training (stress, satisfaction, professional commitment, self efficacy among others), extrinsic values, and economic factors (time preference) have an impact on career decisions.

**Conclusion:** Educational policies in the health care sector affect individuals' willingness to enter a nursing education through the quality of initial qualified care education as well as through shaping career perspectives for qualified carers and nurses.

### **Transfer of Learning in a French work-integrated learning program**

L. Veillard, University of Lyon, France

We study a teaching sequence dedicated to transfer of learning within a French tertiary course (work-integrated learning program) in the field of industrial logistics. In this sequence, the students don't have to learn new concepts or methods, but must solve a complex open problem by using and articulating different knowledge learned previously in different disciplinary teaching units or at the workplace. Our problematic deals with the factors that can explain the students' successes or difficulties to use different types of previous knowledge and the teacher's role in the facilitation of this process of transfer of learning. Theoretically, we subscribe to a situated and social perspective on learning (Berger & Luckmann, 1966; Lave & Wenger, 1991). Transfer of learning from one social context to another is possible but generally knowledge must be adapted and transformed to fit to the new context (Tuomi-Grohn & Engeström, 2003). In this process, some boundary objects (Star & Griesemer, 1989,) and some boundary spanners (Buxton, Carlone, & Carlone, 2005) can play an important role. Our methodology is based on analyses from video-recordings of 2 batches of students from 2 main points of view: the types of knowledge used by the students and the teacher's strategies to help students. Our results highlight that students easily use some knowledge learned at the workplace. But they have great difficulties to use correctly different concepts and methods that constitute boundary objects for the transfer of learning. These difficulties can be related to the type of tasks done by the students at the workplace and to the fact that the most important notions for the problem solving have been taught separately in different teaching units where the context and the purpose were very different. We found also that the teacher can develop strategies that can have different effects on students' activity.

### **Students' Errors: How teachers diagnose and respond to them**

E. Wuttke, University of Frankfurt, Germany

J. Seifried, University of Konstanz, Germany

An important aspect of teacher competence is the ability to identify student errors and to give constructive feedback (PEC = professional error competence). Both components appear to be essential if students are to learn from errors. But so far there is very little research in this field. Our analysis aims to ascertain precisely what teachers (at different levels of their professional career) know about student errors, and how they deal with them. Video vignettes, showing error situations in the classroom, were used to measure the PEC. To supplement this performance data a questionnaire designed to analyze the teachers' beliefs about learning from errors was employed and the domain specific error knowledge was tested using a paper-pencil-test.

### **Do grades matter? The impact of grades on the success of transition from vocational training to work**

G. Wydra Somaggio, Institute for Employment Research, Germany

T. Buch, Institute for Employment Research, Germany

S. Hell, Institute for Employment Research, Germany

The prospects among graduates of succeeding at the transition from vocational training (VT) to work life are unequally distributed. Particularly, they depend on the degree of qualification. Except for formal schooling, it was up to now, due to restrictions on database, not possible to explain such differences in transition patterns. Therefore, we had to assume that graduates having same schooling and being skilled in the same occupation dispose of an identical qualification level. However, it can be expected that the skills acquired during the vocational training vary. The final examination grade of vocational training is one indicator for these variations. Our analysis bases on a dataset that allows an estimation of the impact of school leaving certificates as well as of vocational training grades on the likelihood of successful labour market integration.

In our multivariate analysis (Probit and Cox regressions) we find evidence that the more differentiated human capital factors have a significant effect on the probability of succeeding at the transition from vocational training to employment. This applies to the risk of becoming unemployed as well as to the duration of the first employment spell. Besides, there is an independent effect of a phase of unemployment on the duration of the first employment spell.

The higher the school leaving certificates and the better the grades of final examinations the smoother the transition from vocational training to labor market will be. Strategies should be discussed that could pave the way of weak apprentices into a successful employment biography.

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## General information

### 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](http://www.sbb.ch). Your destination from the airport is going to be Berne.

#### Berne to SFIVET, Zollikofen by bus:

After arriving at the train station of Berne, 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** ②, walk for about 50 meters – you will see the SFIVET on your right hand side.

Total time from Berne main station: 20 minutes

#### Berne to SFIVET, Zollikofen by train and bus:

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

- Go to the train station RBS (lower level of the train station building) and take the **train S8** (direction *Jegensdorf or Solothurn*)
- Step off at the station stop **Zollikofen** ③ and take **bus no. 106** ④ (direction *Bern Hauptbahnhof*)
- Step off at the bus stop **Zollikofen Schäferei** ②, cross the street and walk for about 50 meters – you will see the SFIVET on your right hand side.

Total time from Berne main station: 20 minutes

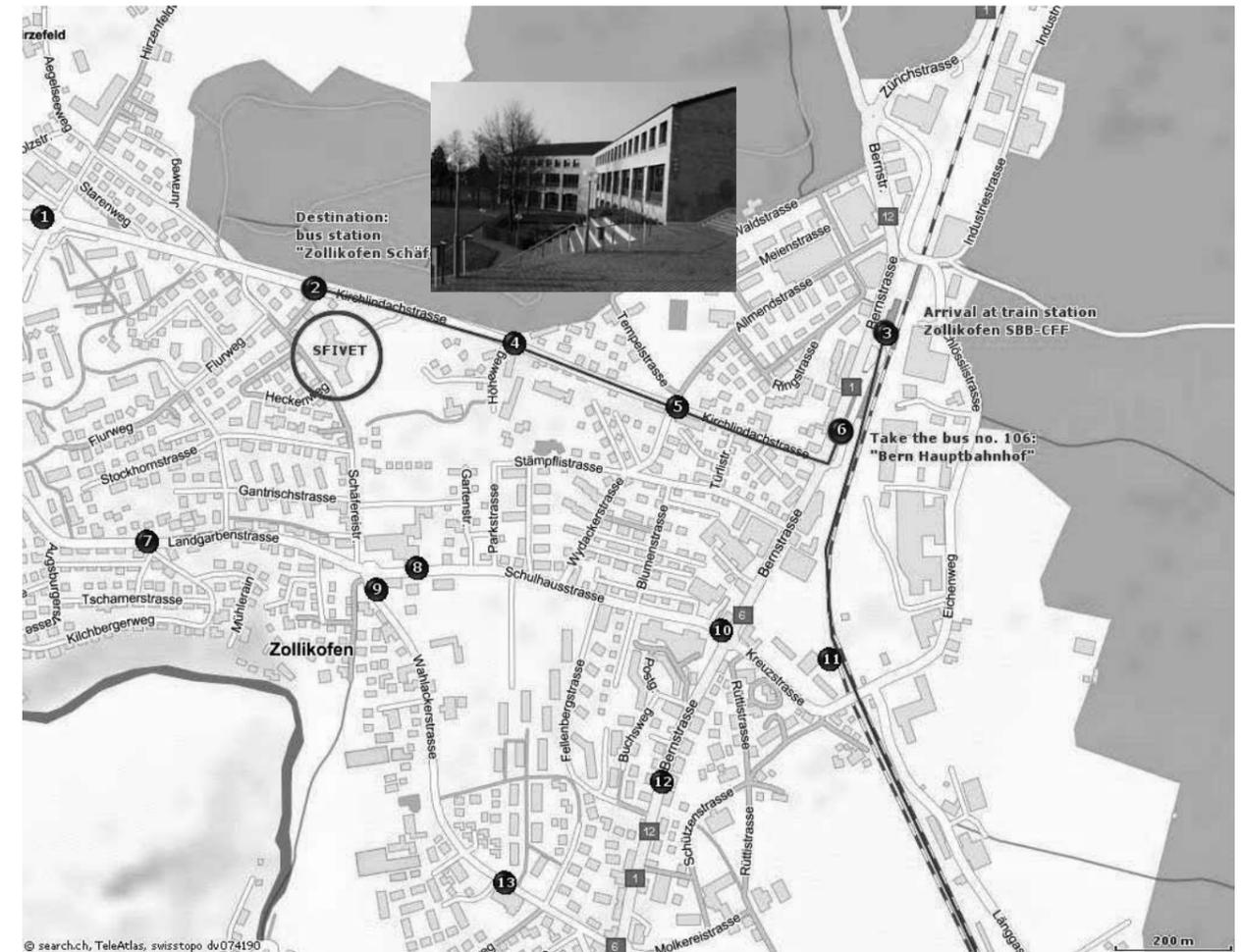
#### Berne to SFIVET, Zollikofen by taxi:

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

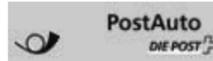
There are different local taxi companies in Berne:

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



Departure station: Berne main station  
 Direction: Zollikofen Bahnhof

Departure station: Zollikofen Schäferei  
 Direction: Bern Hauptbahnhof  
 (main station)

→ step off at the bus stop „Zollikofen Schäferei“

Departure	Arrival	Duration
07:19	07:51	39 min.
07:41	08:00	26 min.
08:11	08:30	26 min.
08:41	09:00	26 min.
09:11	09:30	26 min.
09:41	10:00	26 min.
10:11	10:30	26 min.
10:41	11:00	26 min.
11:11	11:30	26 min.
11:19	11:51	39 min.
11:41	12:00	26 min.
11:49	12:21	39 min.
12:11	12:30	26 min.
12:19	12:51	39 min.
12:41	13:00	26 min.
12:49	13:21	39 min.
13:11	13:30	26 min.
13:41	14:00	26 min.
14:11	14:30	26 min.
14:41	15:00	26 min.
15:11	15:30	26 min.
15:41	16:00	26 min.
16:11	16:30	26 min.
16:19	16:51	39 min.
16:41	17:00	26 min.
16:49	17:21	39 min.
17:11	17:30	26 min.
17:19	17:51	39 min.
17:41	18:00	26 min.
17:49	18:21	39 min.
18:11	18:30	26 min.
18:19	18:51	39 min.
18:41	19:00	26 min.
18:49	19:21	39 min.
19:11	19:30	26 min.
19:41	20:00	26 min.

Departure	Arrival	Duration
08:51	09:17	33 min.
09:21	09:47	33 min.
09:51	10:17	33 min.
10:21	10:47	33 min.
10:51	11:17	33 min.
11:21	11:47	33 min.
11:51	12:17	33 min.
12:05	12:42	44 min.
12:21	12:47	33 min.
12:35	13:12	44 min.
12:51	13:17	33 min.
13:05	13:42	44 min.
13:21	13:47	33 min.
13:35	14:12	44 min.
13:51	14:17	33 min.
14:21	14:47	33 min.
14:51	15:17	33 min.
15:21	15:47	33 min.
15:51	16:17	33 min.
16:21	16:47	33 min.
16:51	17:17	33 min.
17:05	17:42	44 min.
17:21	17:47	33 min.
17:35	18:12	44 min.
17:51	18:17	33 min.
18:05	18:42	44 min.
18:21	18:47	33 min.
18:35	19:12	44 min.
18:51	19:17	33 min.
19:05	19:42	44 min.
19:21	19:47	33 min.
19:51	20:17	33 min.
20:21	20:47	33 min.
21:21	21:47	33 min.
22:25	22:51	33 min.
23:25	23:51	33 min.

### Timetable of train S8 and bus



Departure station: Berne main station  
 Direction: Urtenen

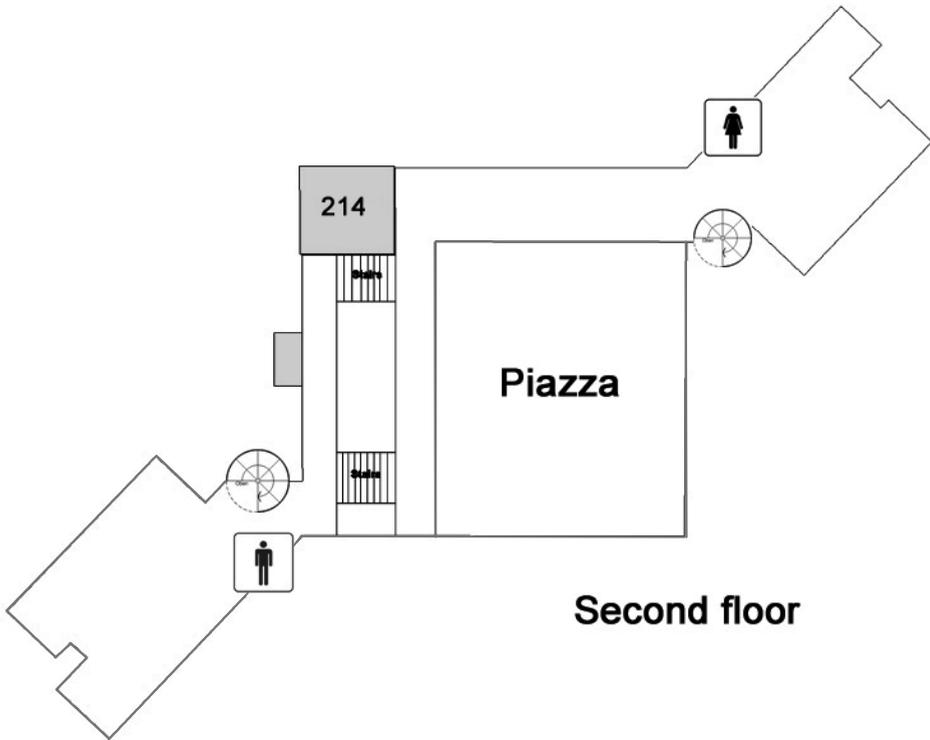
Departure station: Zollikofen Schäferei  
 Direction: Zollikofen Bahnhof

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

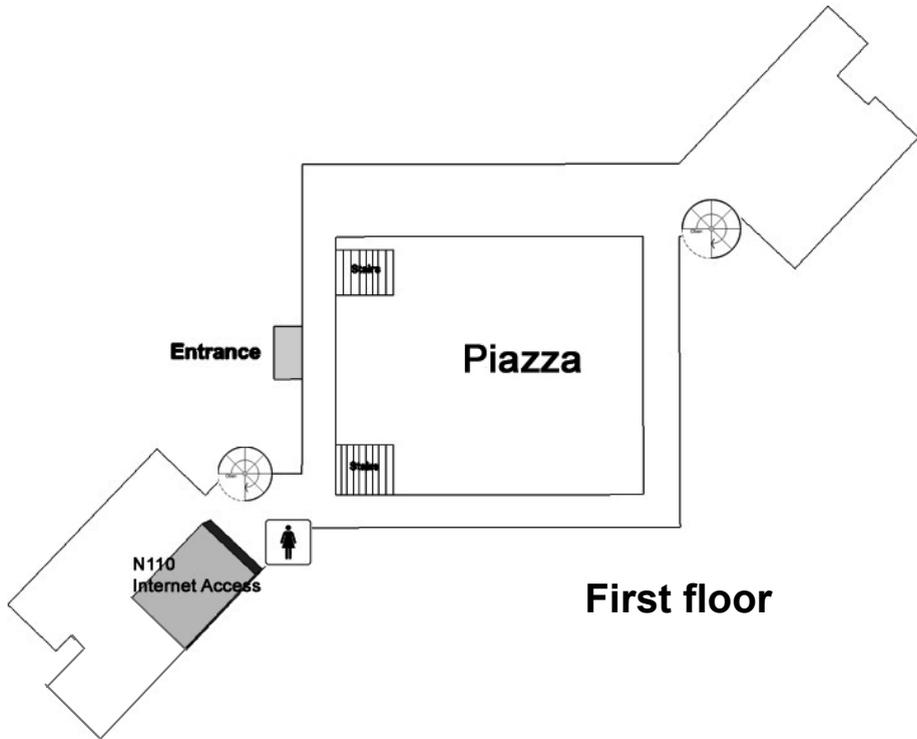
Train S8		Bus 106		Duration
Departure	Arrival	Departure	Arrival	
Bern RBS	Zollikofen	Zollikofen	ZO, Schäferei	
07:37	07:45	07:49	07:51	20 min.
07:52	08:00	08:03	08:05	19 min.
08:07	08:15	08:19	08:21	20 min.
08:37	08:45	08:49	08:51	20 min.
09:07	09:15	09:19	09:21	20 min.
09:37	09:45	09:49	09:51	20 min.
10:07	10:15	10:19	10:21	20 min.
10:37	10:45	10:49	10:51	20 min.
11:07	11:15	11:19	11:21	20 min.
11:37	11:45	11:49	11:51	20 min.
11:52	12:00	12:03	12:05	19 min.
12:07	12:15	12:19	12:21	20 min.
12:37	12:45	12:49	12:51	20 min.
12:52	13:00	13:03	13:05	19 min.
13:07	13:15	13:19	13:21	20 min.
13:37	13:45	13:49	13:51	20 min.
14:07	14:15	14:19	14:21	20 min.
14:37	14:45	14:49	14:51	20 min.
15:07	15:15	15:19	15:21	20 min.
15:37	15:45	15:49	15:51	20 min.
16:07	16:15	16:19	16:21	20 min.
16:37	16:45	16:49	16:51	20 min.
16:52	17:00	17:03	17:05	19 min.
17:07	17:15	17:19	17:21	20 min.

Bus 106		Train S8		Duration
Departure	Arrival	Departure	Arrival	
ZO, Schäferei	Zollikofen	Zollikofen	Bern RBS	
08:30	08:36	08:39	08:48	24 min.
09:00	09:06	09:09	09:18	24 min.
09:30	09:36	09:39	09:48	24 min.
10:00	10:06	10:09	10:18	24 min.
10:30	10:36	10:39	10:48	24 min.
11:00	11:06	11:09	11:18	24 min.
11:30	11:36	11:39	11:48	24 min.
12:00	12:06	12:09	12:18	24 min.
12:30	12:36	12:39	12:48	24 min.
13:00	13:06	13:09	13:18	24 min.
13:30	13:36	13:39	13:48	24 min.
14:00	14:06	14:09	14:18	24 min.
14:30	14:36	14:39	14:48	24 min.
15:00	15:06	15:09	15:18	24 min.
15:30	15:36	15:39	15:48	24 min.
16:00	16:06	16:09	16:18	24 min.
16:30	16:36	16:39	16:48	24 min.
17:00	17:06	17:09	17:18	24 min.
17:30	17:36	17:39	17:48	24 min.
18:00	18:06	18:09	18:18	24 min.
18:30	18:36	18:39	18:48	24 min.
19:00	19:06	19:09	19:18	24 min.
19:30	19:36	19:39	19:48	24 min.
20:00	20:06	20:09	20:18	24 min.

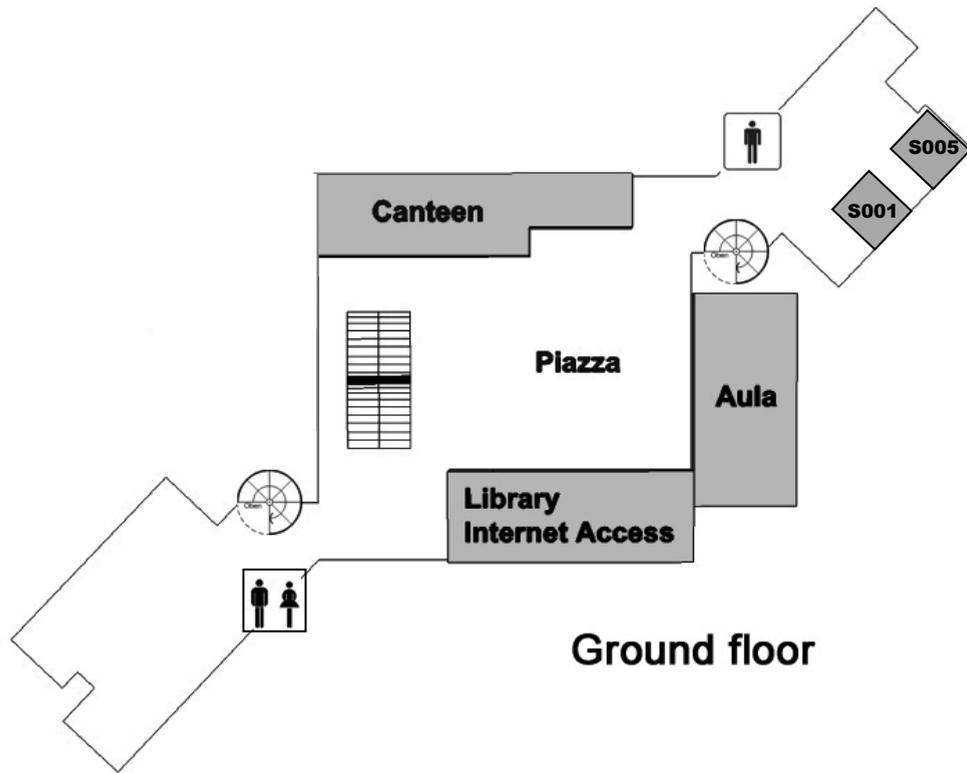




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**First floor**



**Ground floor**

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