Learning & professional development: From innovative research to innovative interventions

Book of abstracts of the EARLI SIG14 2020 Conference

Professional learning & development: From innovative research to innovative interventions. Book of abstracts of the EARLI SIG14 2020 Conference.

Edited by: Georgina París

               Carla Quesada-Pallarès

               Anna Ciraso-Calí

               Helena Roig-Ester

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INTRODUCTION

SIG14 Learning and professional development brings together researchers who study work and education as contexts for professional learning. More information about the SIG can be found in here.

Conference theme

"From innovative research to innovative interventions" was the theme selected for the SIG14 2020 Conference in Barcelona. Barcelona is the Mediterranean city of innovation, openness, exchange and interculturality. Made sense then that Barcelona, and the Universitat Autònoma de Barcelona, hosted the SIG14 2020 Conference with this theme.

We encouraged presenters to reflect on their research projects and to share with the rest of the attendees those interventions based on research that aim to innovate in the field of learning and professional development. Innovation must be rooted in research and this is what we wanted to discuss in the conference with the help of outstanding keynotes with a highly relevant expertise on the field from an innovative perspective. Also, and from this perspective, we organized for the first time, the "Research Innovation Pre-Conference" hosted at the UAB Campus Bellaterra to provide opportunities to learn new or different ways of doing research in the field.

We welcomed then all research that looked for innovate in the field of learning and professional development.

Chair of the Local Organizing Committee

Carla Quesada-Pallarès, Universitat Autònoma de Barcelona, Spain ORCID

Local Organizing Committee

Georgina París, Universitat Autònoma de Barcelona, Spain ORCID
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Carla Quesada-Pallarès, Universitat Autònoma de Barcelona, Spain ORCID
Georgina París, Universitat Autònoma de Barcelona, Spain ORCID

More about us

Carla Quesada-Pallarès, Lecturer (Serra Húnter Fellow) in Research Methods and Diagnosis in Education, Department of Applied Pedagogy, Faculty of Educational Sciences, Universitat Autònoma de Barcelona, Spain Web

Maaike Endedijk, Associate Professor in Professional Learning & technology, Department of Educational Sciences, Faculty of Behavioural, Management, and Social Sciences, University of Twente, The Netherlands Web

Eva Kyndt, Associate Professor at the department for Training and Education Sciences, University of Antwerp, Belgium & Swinburne University of Technology, Melbourne, Australia Web

Georgina París, Post-Doctoral Researcher at the Department of Applied Pedagogy, Faculty of Educational Sciences, Universitat Autònoma de Barcelona, Spain

Where to find us

If you have any question, you can contact us by e-mail at earlisig14@uab.cat or in our twitter account @2020SIG14

SPECIAL ISSUE

In collaboration with the open access EDUCAR Journal related to the Conference theme: **"PROFESSIONAL LEARNING & DEVELOPMENT: FROM INNOVATIVE RESEARCH TO INNOVATIVE INTERVENTIONS"** PROCEDURE.

The EARLI SIG14 Conference 2020 is organizing a Special Issue in collaboration with the EDUCAR Journal -indexed in Scopus- related to the Conference theme. EDUCAR Journal belongs to the University Autonomous of Barcelona.

The SI is entitled "Professional Learning & Development: From innovative research to innovative interventions"; and it includes 6 to 8 articles in English or Spanish. The Editors are Georgina París and Carla Quesada-Pallarès.

The EARLI SIG14 Conference 2020 committee encourages the submission of papers that communicate applied and empirical findings of interest to Professional Learning and Development. Considering the Conference theme, and always approaching the topics from an innovative perspective, topics of interest include, but are not limited to, the following areas:

- Work and education as contexts for professional learning and development;
- theories and methodologies for the study of professional learning and development;
- constraints and affordances of professional learning and work identities;
- vocational education and training in schooling and working life contexts;
- adult learning processes within the context of work

Express your interest by sending the paper proposal (Title, Authors, 250 words-Abstract and 5 Keywords) by 24/07/2020 to georgina.paris@uab.cat

PRE-CONFERENCE

The SIG14 Conference in 2020 organized for the first time the 'Research Innovation' pre-Conference. It was going to be hosted by the Campus UAB in Bellaterra (more information).

The 'Research Innovation' pre-conference was supposed to be in July the 7th and was open to anyone who wanted to learn new methods in the field or to update the one already has.

Confirmed Workshops

Workshops about Analyses

- Growth modeling analyses using R - Alicia Walkowiak (Maastricht University)
- The application of Item Response Theory (IRT) to the development and refinement of questionnaires - Mariel Musso (CONICET Argentina & UADE University), and Eduardo Cascallar (KU Leuven & Assessment Group International)

Workshops about General skills

- Academic Transfer Skills: social media, personal brand & networking - Paloma Valdivia (UAB), Ruth Martinez-Lopez (ELEARNING 3D), Aitana González (Madrid Open University and College of New Caledonia), and Carla Quesada-Pallarès (UAB)
- Publishing (title and leader TBC)

Workshops about Intervention

- Video analysis for change: the Cross Self-Confrontation methodology in the Activity Clinic approach - Laure Kloetzer (Université de Neuchâtel)
- Design teams as vehicle for professionalization - Loek Nieuwenhuis & Haske van Vlokhoven (HAN University of Applied Sciences)

Workshops about Technology

- Perfecting your presentation skills with virtual reality (VR) (leader TBC)

The SIG14 Conference in 2020 would have been hosted by Casa Convalescència, a venue managed by the UAB in the city center of Barcelona. The conference was supposed to take between 8th and 10th of July. Here is the Overall Program of the conference.

OVERALL PROGRAM SIG14 CONFERENCE: July 8-10 2020

(VENUE: CASA CONVALESCÈNCIA, BARCELONA)

	8th July 2020	9th July 2020	10th July 2020
8:00-8:30	Registration		
8:30-9:00	Registration		
9:00-9:30		Registration	Registration
9:30-10:00	Opening ceremony		
10:00-10:30	Keynote Prof. Kerrie Unsworth	Parallel sessions D	Parallel sessions G
10:30-11:00	Keynote Prof. Kerrie Unsworth		
11:00-11:30	Coffee break	Coffee break	Coffee break
11:30-12:00	Parallel sessions A	Keynote Aida Camps	Keynote Prof. Allison Littlejohn
12:00-12:30	Parallel sessions A	Keynote Aida Camps	Keynote Prof. Allison Littlejohn
12:30-13:00	Lunch	Lunch	Lunch
13:00-13:30	Lunch	Lunch	Lunch
13:30-14:00	Lunch	Parallel sessions E (posters)	Lunch
14:00-14:30	Lunch	Parallel sessions E (posters)	Parallel sessions H
14:30-15:00	Parallel sessions B	Parallel sessions E (posters)	Parallel sessions H
15:00-15:30	Parallel sessions B	Coffee break	Parallel sessions H
15:30-16:00	Parallel sessions B	Parallel sessions F	Closing ceremony
16:00-16:30	Coffee break	Parallel sessions F	Closing ceremony
16:30-17:00	Parallel sessions C	Parallel sessions F	
17:00-17:30	Parallel sessions C	SIG14 Business meeting	
17:30-18:00	Parallel sessions C	SIG14 Business meeting	
18:00-18:30	Welcome reception		
18:30-19:00	Welcome reception		
19:00-19:30	Welcome reception		
19:30-20:00	Welcome reception		
20:00-20:30	Welcome reception	Conference dinner	

However, with deep regret, we decided to cancel the SIG meeting without a virtual alternative or postponement. The COVID-19 situation is affecting our professional and personal lives deeply. The scientific and organizing committees discussed the implications for our SIG 14 conference in Barcelona.

This was a well-considered and difficult decision taking many factors and potential risks into account. We considered various alternatives for postponement to fall or winter. However, the conference location we committed ourselves to is very popular, we had to decide right now for a spot in fall or winter.

As there is so much uncertainty regarding the COVID situation, we concluded that it would be too risky to set new conference dates at this moment. We believed that a virtual alternative would not allow us to meet some of the main goals of our SIG 14 meeting, namely in-depth discussions of research in progress and community building.

Moreover, changing at this stage the conference to a virtual conference would need great time and financial investments. This is something we cannot ask for, not from the organizing committee and not from our members as many of us are dealing with great challenges: combining teaching online with supporting family members with positive test results, taking care of children and managing research projects that are affected by this crisis.

It was also an emotional decision, all the hard work, especially by the Barcelona team had already been done. It's very hard to leave that behind. The SIG coordinators visited Barcelona a month ago and we were so impressed by all the great ideas, the fabulous location and the energy they put into organizing this conference. A very special thanks to the Local Team who put a lot of effort on the conference planning.

And although a regular SIG conference is off the table, we still hope that there might be an opportunity in the next year(s) to come together in this great city in the form of a small group meeting.

 All participants that already registered will be informed soon on the reimbursement of the conference fee. We are very happy that EARLI has expressed the intention to help us covering the costs that already were made.

The abstracts of all contributions for the SIG14 2020 Conference are here presented.

KEYNOTES

KEYNOTE 1: KERRIE UNSWORTH

Learning to juggle multiple goals – An example of how research & intervention innovations can emerge together

Abstract: Everybody is trying to manage multiple goals – whether you are an academic trying to juggle your teaching, research and administrative roles; a parent trying to juggle work and home roles; or a student trying to juggle their own expectations with university requirements. My colleagues and I started our research into this area by trying to help ourselves deal with our own motivation and well-being; it then developed into a professional development intervention which was tested and evaluated with research. The research then fed back into the interventions which we now use as a professional development tool across a variety of organizations and participants. In this talk, I will cover some of the key recommendations coming out of the research into managing multiple goals as well as how the research and intervention were intertwined.

Bio: Kerrie Unsworth is a Professor of Organizational Behavior at Leeds University Business School. She is also Director of the Workplace Behavior Research Centre, a research group dedicated to improving the world through better organizational behavior. She is interested in understanding and helping people at work, including their motivation, pro-environmental behaviors, creativity, well-being and productivity. At the moment, her specific research interests focus on how people juggle their different goals and identities and the effect that has on their motivation and behaviors. She has published in a range of top academic journals such as Journal of Applied Psychology and Academy of Management Review and her work has received nearly 3000 citations. She is currently Head of the Management Division in Leeds University Business School.

KEYNOTE 2: AIDA CAMPS

The simulation as a driver of innovation in learning and professional development

Abstract: The methodology of simulation has proved, despite its methodological youth, a great potential to generate significant changes in the learning process of many competences, whether cognitive, practical or attitudinal. International institutions such as the Society Simulation Healthcare define this methodology as "the situation or place created to allow people to experience the representation of a real event with the purpose of practicing, learning, evaluating, testing or understanding human systems or actions". That is why simulation allows a 360° application to be implemented at an educational, evaluative level, in the field of research and the practical implementation of systems or equipment. In the last 6 years, CISARC (International Center for Simulation and High Clinical Performance of UManresa) has introduced the simulation in its educational and training programs of both health and social fields. CISARC has deepen its commitment with this methodology by analyzing what factors are essential to carry out curricula that allow meaningful learning for participants in both professional and educational fields, as well as the creation of the Chair of simulation and patient safety, that aims to promote research in the professional field and the comprehensive care of patients. During the conference we will explain what simulation is and what it is required to apply the simulation methodology, being still unknown in some sectors. We will also provide scientific evidence of its effectiveness whereas we will analyze how this methodology opens up new horizons for innovation in educational training and professional development. Finally, we will also explain how simulation can contribute to the research and improvement of processes in which learners are the core of their learning and error is conceived as an opportunity to evolve and improve.

Bio: Aida Camps is Teacher and Educational Facilitator at UManresa (University of Vic-Central University of Catalonia). She is a PhD student in Innovation educational interventions at UVic-UCC; she holds a degree in Psychology, and a diploma in Nursing. She is the academic responsible for the simulation programs of CISARC. She is also the academic coordinator of the University Master's Degree in Simulation Methodology Applied to Professionals in the field of Health and Social sciences at UManresa. Aida coordinates the Chair of Simulation and Patient Safety of UManresa, as well as she is a researcher in the teaching innovation, simulation and safety group of UManresa patients (Grindossep). During the past 2 years, Aida has been Vice President of the Spanish Society of Clinical Simulation and Patient Safety (SESSEP) while participating as a member and advisor of clinical simulation groups for the implementation of internal professional training programs in the Hospital field. She is also member of the local scientific group of the European Society of Simulation Applied to Medicine (SESAM).

KEYNOTE 3: ALLISON LITTLEJOHN

Professional Learning Analytics

Abstract: Learning for work takes various forms, from formal training to informal or non-formal learning through work activities. In many work settings, professionals collaborate via networked environments leaving various forms of digital traces, sometimes termed "clickstream" data. These data can be exploited through learning analytics (LA) to make both formal and informal learning processes traceable and visible to support professionals with their learning. This keynote examines different forms of professional learning analytics, exploring whether and how data analyses support professionals as they learn. Learning Analytics can address affective and motivational learning issues as well as technical and practical expertise; Data can be used by Artificial Intelligence systems to 'intelligently' align individual learning activities with organizational learning goals, providing a foundation for future learning and work. However, these systems can inherit biases and problem systemic within society. During this keynote I will illustrate examples of analytics in action in professional settings, drawing out some of the advantages, while questioning problems associated with their use. I will examine the work of computer scientists who are working with learning scientists to develop methodologies that support the design and development of improved analytics systems that support professional learning.

Bio: Professor Allison Littlejohn is a learning scientist, specializing in professional and digital learning. Her expertise is in applying educational theory and evidence to developing and evaluating complex interventions for professional learning which capitalize on the use of digital technologies. Her work has made contributions to the understanding of how people learn for work in diverse contexts and cultures across the Energy, Finance, Health, Education and International Development sectors. Allison has held research Chairs at five UK universities and have experience of strategic leadership in education, as Dean (Learning & Teaching), College of Social Sciences, University of Glasgow; Academic Director of

Digital Innovation at the Open University (2015-2019), Founding Director of the Caledonian Academy at Glasgow Caledonian University (2006 – 2014), where she was Senior Researcher for Royal Dutch Shell (2008-2010), leading a partnership around Knowledge Innovation & Development. She has been awarded over 40 research grants funded by a range of funding bodies including research councils and industry. Her current research focuses on the role of professional learning in resolving global challenges. She is Academic Director for 'Ways of Working and Learning in AMR surveillance systems in LMICs', funded by the UK Department for Health and Social Care's Fleming Fund. She also researches 'Approaches in Complex and Challenging Environments for Sustainable Sexual & Reproductive Health' (ACCESS), funded by the UK Department for International Development. She serves on the editorial board of a number of influential journals, including The Internet and Higher Education and Vocations & Learning.

SYMPOSIUM

Symposium #1: Without good instruments it sounds bad: Validation of different informal workplace learning measures

Coordinator(s) of the Symposium:

Julian Decius, julian.decius@uni-paderborn.de, University of Paderborn, Germany

Julia Hein, julia.hein@uni-mannheim.de, University of Mannheim, Germany

Discussant of the Symposium:

David Gijbels, david.gijbels@uantwerpen.be, University of Antwerp, Belgium

Abstract

In today's working world – which is constantly changing due to globalization and digitization – informal learning at the workplace plays a major role for employees' further education (Cerasoli et al., 2018). Many learning contents are no longer taught in the traditional way through trainings, but through integration into the work process, through exchange with colleagues, through reflection on one's own work outcomes or through trial and error (Tannenbaum et al., 2010). Despite the importance of informal workplace learning, there is still a lack of valid and reliable measuring instruments for operationalizing informal learning in various contexts and target groups (Decius et al., 2019). The present symposium aims to address this shortcoming by presenting measurement tools for employees in different working contexts, namely business and education, which are based on theoretically driven conceptual models and approaches to informal learning.

In practice, managers in organizations can use these measures to determine the informal learning of their employees, to identify different types of learners, and to provide the best possible learning support to employees. The scales presented enable research to operationalize informal learning economically, and thus to investigate more about the antecedents and outcomes of informal learning in future cross-sectional and longitudinal studies.

Keywords

Informal learning, scale validations, quantitative methods, business, education

Contributions

The session is organized into four contributions: Three measures of informal learning (a short scale for white-collar workers, a long scale for university instructors, and a scale on social informal learning in business and education), and the validation of these scales will be presented and discussed jointly afterwards. Convergent, discriminant and construct validity are addressed in all contributions.

First, an economic short scale on informal workplace learning based on the dynamic model of informal workplace learning by Tannenbaum et al. (2010) for the target group of white-collar workers will be presented. For validation issues, informal workplace learning is classified into a nomological network of antecedents (job demands and job resources) and consequences (newly acquired competencies).

Second, a full scale for the measurement of informal workplace learning among instructors in the context of higher education will be introduced. Therefore, a scale for blue-collar workers, which also built upon the dynamic model of informal workplace learning by Tannenbaum et al. (2010), was transferred to higher education.

Third, a measure on social informal learning will be presented. This measure focuses on the frequency and use of proactive social informal learning behaviors, such as feedback, help seeking and information seeking, in two contexts: business and education.

Titles of contributions and discussion:

1. Further Validation of a Short Scale on Informal Workplace Learning
2. Validation of a Scale on Informal Workplace Learning of Instructors in Higher Education
3. Learning from others: the validation of the Social Informal Learning questionnaire
4. Measuring informal workplace learning: mission impossible?

Symposium Individual Contribution: Further Validation of a Short Scale on Informal Workplace Learning

Author(s)

Julian Decius, julian.decius@uni-paderborn.de, University of Paderborn, Germany

Niclas Schaper, niclas.schaper@upb.de, University of Paderborn, Germany

Andreas Seifert, andreas.seifert@upb.de, University of Paderborn, Germany

Abstract summary

The challenges resulting from increasing digitalization and globalization require more agile and flexible continuing education for employees. Especially informal learning in the workplace is becoming increasingly important. Practitioners want to promote employee's informal learning, but they often lack an appropriate, validated measuring instrument.

Based on an existing scale (IWL-Skala by Decius et al., 2019), which builds on an established model of informal learning (Tannenbaum et al., 2010), we present a short version of eight items for use among white-collar workers. Using a sample of 747 employees, we show that an alternative second-order factor structure – which is more similar to the original model of Tannenbaum and colleagues – has a better fit compared to a model where all items load on a single factor. The scale's reliability is satisfying (α =.76) and we could find the expected correlations regarding construct validity with job demands, job resources, and newly acquired competencies. Researchers can use the short scale to include informal learning as a control variable or additional construct in studies where the focus is not on informal learning itself. Practitioners receive an economic measure of informal learning among their employees.

Keywords

Informal workplace learning, measure, short scale, validation, white-collar workers

Symposium Individual Contribution: Validation of a Scale on Informal Workplace Learning of Instructors in Higher Education

Author(s)

Julia Hein, julia.hein@uni-mannheim.de, University of Mannheim, Germany

Oliver Dickhäuser, oliver.dickhaeuser@uni-mannheim.de, University of Mannheim, Germany

Lea Kohler, lekohler@mail.uni-mannheim.de, University of Mannheim, Germany

Abstract summary

The development of professional and didactical competences of instructors in higher education is an important prerequisite for student learning through high quality teaching (Biggs & Tang, 2011) as well as for high quality research. While instructors' workplace learning is of societal relevance, there is still no validated measure of informal workplace learning except for the amount of invested learning times on both formal and informal learning activities (Hein et al., 2019; Daumiller, 2018). Therefore, it is important to develop and validate a measure of informal workplace learning that describes the learning behavior of instructors more qualitatively than only quantitatively. Based on an existing scale (IWL-Skala by Decius, Schaper & Seifert, 2019), which builds on an established model of informal learning (Tannenbaum et al., 2010), we present a first version that is adapted for the work environment of instructors in higher education. A sample of 234 instructors with teaching and research responsibilities in higher education institutions in Germany, reported the feedback, reflection and experience/action of their informal

workplace learning. The internal consistencies are satisfying to good (overall α =.83, for subscales α =.77 to .92). In confirmatory factor analyses, a theoretically reasonable 6-factor model has a better fit compared to a 3- and 1-factor solution. We find correlations in expected directions for the six factors of informal workplace learning regarding construct validity with learning approach goals (as possible antecedent) and self-reported learning results. Future studies can easily adapt this scale to the main tasks of the academic staff, teaching and research.

Keywords

Informal workplace learning, scale validation, learning goals, instructors, higher education

Symposium Individual Contribution: Learning from others: the validation of the Social Informal Learning questionnaire

Author(s)

Samantha Crans, s.crans@maastrichtuniversity.nl, Maastricht University, Netherlands

Simon Beausaert, s.beausaert@maastrichtuniversity.nl, Maastricht University, Netherlands

Abstract summary

The current study presents the validation of a new instrument measuring social informal learning (SIL). The purpose of this study is to highlight the relevance of conceptualizing and operationalizing the social side of learning. A new instrument was developed and validated, focusing on the frequency and use of SIL activities. Since the total sample consists of professionals working in the business sector and education sector, we performed additional tests to investigate possible differences between sectors. A total of 732 professionals were included in this study. The results of the exploratory and confirmatory factor analysis showed that the new SIL instrument is acceptable. The results also showed that professionals in the business sector engaged in more SIL compared to the education sector.

Keywords

Workplace Learning, Social Informal Learning, Validation, Questionnaire, Quantitative Methods

Symposium #2: Innovative approaches to transform professional development on blended learning in higher education

Coordinator(s) of the Symposium:

Anja Garone, anja.garone@vub.be, Vrije Universiteit Brussel, Belgium

Katrien Struyven, katrien.struyven@uhasselt.be, Universiteit Hasselt, Vrije Universiteit Brussel, Belgium.

Abstract

Universities increasingly are catering to diverse student populations, including working and international, or distance students. Blended learning is an ideal method for tackling the growing complexities of higher education by reducing physical contact time, increasing flexibility and facilitating deep learning. In keeping up with these demands, universities are continuously investing in support and professional development initiatives to facilitate blended learning. However, several challenges are faced when professionalizing higher education teaching staff for blended learning. The main challenges that professional development organizers and universities face are, despite offering a range of trainings and workshops, the transfer of training and return on investment remains limited. This is due to the reality that faculty staff are often burdened with administrative, management and research tasks, in addition to their teaching responsibilities. Hence, there is a need for innovative professional development initiatives which employ new technologies and methods. Most certainly in professional development on blended learning, it is essential that trainers not only "teach what they preach" by making optimal use of educational technologies within their initiatives, but also reach participants in such a way as to achieve sustainable and powerful transfer of training. In this symposium we will present scientific contributions with practical relevance: Discussing unique research and professional development methodologies to discover new perspectives on professional development for higher education teaching staff in blended learning and ICT integration. We will provide evidence and guidelines for developing transformative professional development initiatives.

Keywords

Professional development, Blended Learning, ICT, Higher education, In-service teachers

Contributions

The first contribution looks at how higher education teacher trainers educate themselves informally via social media networks. This innovative research gives us a glimpse into the profiles of educators and their activities on social media. This study is the results of a collaboration between colleagues in the **USA and Australia**. The second contribution looks at how to measure preferences and needs of professors and other higher education teaching staff quantitively, however, with a new look into how to interpret survey data. This collaboration between educational scientists and data scientists from **Belgium and Australia** resulted in providing a unique snapshot of the lived experience and needs of professors concerning how they want to professionalize themselves towards blended learning. Our final contribution looks at innovative the experiences and challenges that in-service teachers experience through an innovative online-based training. This study allows

us to understand what are the current challenges and developments facing teacher professional development in **Germany**.

All three contributions present innovative approaches towards understanding professional development, either through innovative research methods or innovative training approaches.

Symposium Individual Contribution: Profiling educator's PLN activity

Author(s)

Dr Sarah Prestridge, S.Prestridge@griffith.edu.au, Griffith University, Australia.

Dr Torrey Trust, torrey@umass.edu, University of Massachusetts, USA.

Abstract summary

There are many opportunities for educators to go online to connect, share ideas and expand their learning beyond the traditional modes of school-based training or workshops. What these self-driven professional development opportunities consist of and how they relate to the more traditional modes is yet to be understood. This study examined educators professional learning networks (PLNs) to identify factors which influenced educators to enact particular learning activities (lurk/watch, post, share, collaborate). Five factors were identified. These included Goals, Time, Confidence, Relationships and Space dynamics. In this paper these five factors are evidenced in a profiling of one educators PLN to illustrate the interplay of the factors and how they influence engagement across both in-person and online contexts. Further profiles will be presented in the session.

Keywords

PLN, Professional learning, Professional Development, social media, networks

Symposium Individual Contribution: How to train your professors: Exploring patterns of professional development preferences for blended learning in higher education teaching staff

Author(s)

Anja Garone, anja.garone@vub.be, Vrije Universiteit Brussel, Belgium

Sarah Howard, sahoward@uow.edu.au, University of Wollongong, Australia

Jack Yang, jiey@uow.edu.au, University of Wollongong, Australia

Jo Tondeur, Jo.Tondeur@vub.be, Vrije Universiteit Brussel, Belgium

Bram Pynoo, Bram.Pynoo@vub.be, Vrije Universiteit Brussel, Belgium

Katrien Struyven, Katrien.Struyven@vub.be, Vrije Universiteit Brussel, Universiteit Hasselt, Belgium

Abstract summary

This study presents an initial analysis of a survey measuring professional development needs and preferences in the context of professionalization for blended learning in two higher education institutes. The items are based on previously defined model of professional development. A data mining approach (association rules analysis) was employed to explore the patterns among the items. Results indicate that professional development is a complex experience for this group of professors and other teaching staff. Furthermore, our results show a preference for a fluid, combined approach rather than separate or single model approaches to professional development.

Keywords

Professional development, Higher education, teaching staff, blended learning, data mining, association rules analysis

Symposium Individual Contribution: Potentials and obstacles in online-based professional development of teachers

Author(s)

Karen Vogelpohl, karen.vogelpohl@uni-oldenburg.de, Carl von Ossietzky Universität Oldenburg, Germany

Abstract summary

In recent years there has been increasing research on the importance of in-service learning for teachers and the characteristics of appropriate professional development of teachers. Although online-based learning is already common practice in continuing education programmes, there have been relatively few interventions and studies in the field of further teacher education. Hence, the paper examines the following question: What potentials and obstacles are perceived and experienced by teachers with regard to online-based teacher professional development? The aim of the present study is therefore to examine the acceptance and use of online learning for the target group. For a detailed analysis of the experiences and perspectives interviews with 21 in-service teachers were conducted. For this purpose, qualitative guideline-based interviews were evaluated with the structured qualitative content analysis according to Mayring (2016). First results show the high wishes and expectations of teachers for the further development of innovative online-based offers. At the same time, the compatibility of online learning with everyday working life is examined with scepticism.

Keywords

Teacher professional development, blended learning design, further education, in-service teacher

Symposium #3: Theorizing learning in, through and for work: Prospects and future processes of inquiry

Coordinator(s) of the Symposium:

Christian Harteis (christian.harteis@upb.de, Paderborn University, Germany)

Discussant of the Symposium:

Christian Harteis (christian.harteis@upb.de, Paderborn University, Germany)

Abstract

This proposed symposium aims to review the current progress with theorizations about and approaches to researching learning in, through and for work (i.e. workplace learning) as a means of capturing what has been achieved to date, and to propose future directions for inquiry, and the means by which research might be conducted. This review is necessary because this field of inquiry is growing in breadth, and in-depth. Yet, much of that research and theorizing has progressed through individual projects, rather than programs of inquiry such as those conducted earlier in the Netherlands (Nijhof & Nieuwenhuis, 2008) and United Kingdom (Rainbird, Fuller & Monro, 2004). Consequently, seeking to understand what has been achieved collectively and projecting into what constitutes future direction for research and theorization is important for consolidating and extending the field of inquiry often dubbed 'workplace learning'. In this symposia, four papers each adopting particular, but distinct, perspectives and approaches collectively seek to compensate for this lack of programmatic approach through offering consolidated accounts and prospects for future directions and approaches. Contribution1 et al present and discuss advances in the integrative approach – the integration of students' experiences in workplaces and how the learning arising from them can best be integrated into students' program of study. In this way, the workplace is not seen as being subordinate or posterior to learning experiences provided in educational settings, but making particular contributions. Contribution2's contribution focuses on how conceptualizations and findings from workplace learning studies can contribute to seminal debates within social sciences, including more nuanced considerations of the structure-agency debate. This also emphasizes the diversity of individuals as learners and workplaces as environments affording different kinds and qualities of experiences and support. Contribution3 discusses heterogeneity in the workforce by focusing on the question to what extent scholars interested in workplace learning should be theoretically aware of differences between employees and whether prominent theories used in workplace learning research already account for such workforce diversity. Contribution4 proposes a visual analysis approach to reviews of literature can be used to illuminate and respond to the kinds of complex and multi-parted educational problems. So, rather than universalizing workers as objects of studies and focuses for findings, their diversity is emphasized. Each of the four presenters has contributed to this field.

Keywords

Workplace learning studies, work-learning, research review, theorizing, future directions

Contributions

After a brief general introduction, four presentations of 15 minutes each will be made. The discussant will then highlight some general remarks and opens the discussion for the plenum.

There are 4 contributions:

Contribution #1: Integrating work and learning in Higher Education and VET

Contribution #2: Learning through work: Elaborating the relations between structure and agency

Contribution #3: Heterogeneity in the workforce: Do we treat all workers alike?

Contribution #4: Visual analysis: A response to "wicked" educational problems

Symposium Individual Contribution: Integrating Work and Learning in Higher Education and VET

Author(s)

Päivi Tynjälä (paivi.tynjala@jyu.fi) Eeva Kallio

Hannu Heikkine (hannu.l.t.heikkinen@jyu.fi) Jyvaskala University, Finland

Abstract summary

This presentation examines integration of work and learning in educational context, and introduces a revised version of the Integrative Pedagogy model (IP model) developed to serve as a framework for combining work and learning in higher education and VET programs but also as part of continuous professional development. The context where learning takes place, then, is the interface between educational institutions and workplaces. Theoretical foundations of the original IP model were based on the accounts on the components of professional expertise (e.g. Bereiter 2002; Eraut 2004), the connective model of work experience (Griffiths & Guile, 2003), the model of (contextual) integrative thinking (Kallio, 2011, 2019), and studies on workplace learning (e.g. Billett, 2004, Malloch et al. 2011; Tynjälä, 2008). More recent studies on learning and agency at work (e.g Goller &Paloniemi, 2017), the role of emotions in learning and professionalism (e.g Hökkä et al., 2019), and wisdom in professional practice (Kallio, 2019; Staudinger & Glück) have played an important role in the development of the model. The basic tenet of the model is that in high-level competence, the main elements of expertise, i.e. conceptual, practical, self-regulative, and socio-cultural knowledge are tightly integrated and fused, and therefore it is important to develop educational practices that support the integration and fusion of these different forms of knowledge (e.g. Tynjälä, 2008; Elvira et al, 2017). This follows that integration of authentic work experience with theoretical studies and self-reflection have a central role in learning. A variety of pedagogical tools can be used for supporting the fusion of different forms of knowledge, coping with emotions and strengthening agency. The model is examined in relation to 3-P Model of Workplace

Learning (Tynjälä, 2013) and recent accounts of the ecologies of practices (Kemmis & Heikkinen, 2015; Barnett & Jackson, 2019).

Symposium Individual Contribution: Learning through work: Elaborating the relations between structure and agency

Author(s)

Stephen Billett (s.billett@griffith.edu.au, Griffith University, Australia)

Abstract summary

As research and theorizing about learning through work matures as a field of inquiry, it should now be able to contribute to broader social science debates. At one level, it extends to the co-occurrence between learning and innovations at work, which informs about how societal and cultural practices transform and humanity progresses. This positions considerations of learning through work more broadly and of greater salience than a consideration of learning situated in the circumstances of practice. Yet, a specific contribution it can make within the social sciences is to elaborate the ongoing debate on the relations between structure and agency (Archer, 2000; McCann, 1998; Ratner, 2000). In making this contribution explicit and comprehensive, this field of research and theorization also sets out its own agendas for the future. This contribution is advanced here by elaborating how: i) change in humans (i.e. learning) and the remaking of work (i.e. cultural) practices arises through the immediacy of engagement in everyday work activities (i.e. microgenetic development) (Scribner, 1984) and ii) humans' change across their working lives (i.e. ontogenetic development) (Scribner, 1985) and occupational and workplace practices the relations between societal or institutional factors (Searle, 1995) on the one hand, and individual or personal factors on the other (Billett, 2009a; Polanyi, 1958; Valsiner, 1998), inform this debate. By considering how the relations between these factors arises in the immediacy of everyday thinking and acting at work and how these relations play out over the longer term (i.e. across working life), it is possible to offer a comprehensive and nuanced account that inform how changes in both individuals (i.e. learning and development) and societal practices arise. The theoretical framing arises from empirically-informed studies of learning through and for work, centred on the duality of what activities and interactions are afforded workers and how they elect or are able engage with them (Billett, 2006). The discussion and elaboration here aligns this framing with the structure-agency debate. Importantly, it also sets out agendas and prospects for the field of workplace research. This includes how the array of affordances and bases of engagement play out for working-age people from diverse backgrounds and readiness and how the provisions of opportunities, activities and interactions engender legacies of different kinds.

Symposium Individual Contribution: Heterogeneity in the workforce: Do we treat all workers alike?

Author(s)

Michael Goller (michael.goller@upb.de , University of Paderborn, Germany)

Abstract summary

This contribution explores the topic of heterogeneity in the workforce by focusing on the question to what extent scholars interested in workplace learning should be theoretically aware of differences between employees. First, it will be argued that the workforce is inherently diverse and that this diversity is relevant to explain workplace learning. Second, it will then be discussed whether existing theoretical accounts that are commonly used by scholars interested in workplace learning systematically and sufficiently consider this diversity. In other words, the degree of coverage of particular theoretical accounts are explored. And thirdly, this contribution discusses the issue of which employee characteristics are relevant for our scientific community in the first place and what characteristics we should focus on in theory refinement and development.

Keywords

Heterogeneity, Diversity, Workplace learning, Workforce

Symposium Individual Contribution: Visual analysis: A response to "wicked" educational problems. A scoping review and research agenda.

Author(s)

Eva Kyndt (eva.kyndt@uantwerpen.be, University of Antwerp, Belgium)

Abstract summary

Phenomena studied within the field of educational sciences are often highly complicated as well as highly variable. In general, we accept that educational problems have many facets, overlapping elements and interconnected aspects. Yet, when empirically examining educational phenomena, we tend to reduce the complex reality to a set of tangible variables and actors that can be explained by (at most a combination) of theoretical framework(s). As such, we treat educational problems as if they were "tame" problems that are well-defined, stable and prone to control and prediction. Starting from the notion of wicked problems (Rittel & Webber, 1973), the current review study examines the current state of the art of visual analysis as a methodology for approaching educational questions. This scoping review aims to provide insight into the characteristics that can be ascribed to "wicked" educational problems, the type of research questions that are addressed using a visual analytical approach and the advantages and disadvantages of using this approach. Analysis of the literature is ongoing but initial results reveal that visual analysis has already been employed successfully in a limited number of areas such as e-learning, social networks and academic performance. Visual analysis complements and extends insights from

traditional analysis. Authors indicate that visual analysis enables them to discover hidden patterns in the data and deal with big data. They recognize that visual analysis supports their expertise when processing a vast amount of information.

Symposium #4: Models and processes of continuing education and training: purposes, practices and efficacies

Coordinator(s) of the Symposium:

Christian Harteis (christian.harteis@upb.de, Paderborn University, Germany)

Discussant of the Symposium:

Stephen Billett (S.Billett@griffith.edu.au, Griffith University, Australia)

Abstract

This proposed symposium aims to advance theoretical concepts and empirical findings of the purposes for, practices of and efficacies of approaches to continuing education and training (CET). Variously entitled CET, professional development or continuing professional development, this mode of professional education and learning is one that builds on the learners' existing knowledge and are provided through combinations of educational institution and practice-based experiences. This seminar seeks to understand how, in different ways, how this combination of experiences addresses goals for CET. Yet, beyond the provision of experiences is how individuals come to engage with and learn through and from those experiences. Hence, to understand how CET is able to achieve it goals, it is necessary to account for these dualities: i.e. what experiences and provided, and how individuals come to engage with them. This is achieved through presentations of findings from four distinct projects that have, in different ways and through specific methodological and conceptual approaches investigated the provision of CET in Singapore, Switzerland and Germany. In each, consideration are given to the educational purposes to be achieved, the processes through which these programs were enacted and evidence of efficacies. The analyses illuminate to the provision of experiences and how adults engaging in CET provisions engaged in and learnt through them.

Keywords

Continuing Education and Training, professionals' learning, learning through practice, models of education, lifelong education, lifelong learning

Contributions

After a brief general introduction four presentations of 15 minutes each. The discussant highlights some general remarks and opens the discussion for the plenum.

There are 4 contributions:

Contribution #1: Continuing education through video-based interaction analysis: the case of parents - educators encounters in early childhood education

Contribution #2: Economic imperatives on CET: Challenges for pedagogical professionality

Contribution #3: Enacting effective continuing education and training: Aligning affordances and engagement

Contribution #4: The Finnish Peer Group Mentoring Model as a Form of Continuing Education: Results of a Systematic Literature Review

Symposium Individual Contribution: Continuing education through video-based interaction analysis: the case of parents - educators encounters in early childhood education

Author(s)

Laurent Filliettaz (laurent.filliettaz@unige.ch) University of Geneva, Switzerland

Stéphanie Garcia (stephanie.garcia@unige.ch) University of Geneva, Switzerland

Marianne Zogmal (marianne.zogmal@unige.ch) University of Geneva, Switzerland

Abstract summary

Whether engaged in initial or continuing education programs, workers today frequently experience situations in which they are required to comment, describe and analyze their activities as documented by audio-video recordings. In this contribution, we propose to explore a particular method of video analysis, focusing on verbal and non-verbal interactions in work and training situations. We aim to present the particularities of such a method and to question its effects in terms of learning and development. The approach we are presenting here is part of an ongoing research and training program being carried out in Switzerland in the field of early childhood education. This research program aims to contribute to the continuing education of educators in a particular area of their work: relationships with parents. The objective of our research and intervention design is to encourage educators to better identify the interactional competences required when encountering parents in their daily work. The research design consists in bringing in-service educators to observe, comment and analyze naturally occurring encounters with parents recorded on video as children arrive in childcare facilities in the morning and are being picked up by their parents in the end of afternoon. The results of our study highlight the potential of a video-based analysis approach conducted according to the principles of interaction analysis for the continuing education of early childhood educators. They show how the confrontation with video data can support learning processes in continuing education. The results also highlight the importance and complexity of the activity of researchers in these devices and their decisive role in the way in which continuing training sessions are conducted.

Keywords

Continuing education, video, interaction, early childhood education, parents

Symposium Individual Contribution: Economic imperatives on CET: Challenges for pedagogical professionality

Author(s)

Christian Harteis (christian.harteis@upb.de) Paderborn University, Germany

Carolin Brandt, Paderborn University, Germany

Josefine Finke, Paderborn University, Germany

Joelle Krautz, Paderborn University, Germany

Abstract summary

From an educational point of view, a major task of institutions of CET and their professionals is to provide opportunities for learning and professional development. A specific goal of educational institutions integrated into confessional funding bodies is to convey humanistic orientations, and their pedagogical staff is obliged to these humanistic orientations in a particular way. Hence, their professional identity is highly influenced by pedagogical and philosophical ideals. However, these educational institutions also have to compete on a (local, regional or national) market against other institutions in order to generate funding and customers. That reveals cost pressure and economic imperatives not only for the educational institutions as wholes but also for the entire pedagogical staff. From their educational background, they usually have academic degrees in educational respectively social sciences or theology but have recently to follow economic imperatives within their work. Economic imperatives may challenge some pedagogical goals and means, so that pedagogical staff may experience economic imperatives as constraints for their professional work and, thus, perhaps as harassment for their professional identity. This interview study explores the research question how pedagogical staff in (German) catholic educational institutions experiences the influence of economic imperatives on their daily work and their professional identity. 26 professionals with educational or theological background of 7 different institutions participated semi-structured interviews (50-90mins). Qualitative and quantitative content analyses were conducted applying deductive as well as inductive categories. The findings reveal that the most subjects accept economic standards in order to successfully maintain providing their CET offers. However, only a minority of subjects integrated economic standards into their professional identity. The majority of subjects experiences the impact of economic imperatives as disruption of their educational role.

Title Keywords

Continuing education and development, learning through work activity, professional development through work, economic imperatives, and teachers

Symposium Individual Contribution: Enacting effective continuing education and training: Aligning affordances and engagement

Author(s)

Anthony Loew (anthony_leow2@rp.edu.sg, Republic Polytechnic, Singapore)

Cheryl Low, (cheryl_low@rp.edu.sg, Republic Polytechnic, Singapore)

Gywneth-Ann Khoo (gwyneth_ann_khoo@rp.edu.sg, Republic Polytechnic, Singapore)

Stephen Billett (s.billett@griffith.edu.au, Griffith University, Australia)

Abstract summary

Globally, there is a growing concern about how to provide effective continuing education and training (CET) provisions to assist working populations remain employable, able to contribute to their workplaces' goals for continuity and secure governments' economic and social goals. As with other forms of education, what constitutes its effective provision can be understood by considering the relations between what these programs provide or afford, on the one hand, and how these meet the needs of individuals and secure their engagement, on the other. Whilst education institutions will organize CET provisions based upon their intended goals, resources, capacities and institutional imperatives, these will not always align with the needs of working age adults who participate in those programs. The bases by which these adults engage with these provisions is premised upon the kinds of purposes that they want to achieve, how the provisions meet their needs in terms of accessibility, relevance, and opportunities to engage, as well as considerations about cost and potential benefits. So, the effectiveness of CET can best be understood by considering the relations between what is afforded and how individuals come to engage with CET provisions. These relational dualities are illustrated and elaborated drawing upon an investigation of what constitutes effective CET provisions in Singapore that comprised interviewing 180 working age graduates of CET programs who had had at least five years of work experience. Through analyses of interview data, it is possible to identify different kinds of purposes for which these adults participate, and their preferences and requirements for effective CET provisions and the qualities of CET teachers.

Keywords

Continuing education and training, learner needs, adult learning; employability and workers' learning

Symposium Individual Contribution: The Finnish Peer Group Mentoring Model as a Form of Continuing Education: Results of a Systematic Literature Review

Author(s)

Hannu L. T. Heikkinen (hannu.l.t.heikkinen@jyu.fi) Finnish Institute for Educational Research, University of Jyväskylä, Finland

Päivi Tynjälä (paivi.tynjala@jyu.fi) Finnish Institute for Educational Research, University of Jyväskylä, Finland

Matti Pennanen (matti.a.pennanen@jyu.fi) Finnish Institute for Educational Research, University of Jyväskylä, Finland

Ilona Markkanen (ilona.markkanen@jyu.fi) Finnish Institute for Educational Research, University of Jyväskylä, Finland

Abstract summary

This study reviews research on the Finnish model of Peer-Group Mentoring (PGM) as a form for continuing education and training (CET). The PGM model was originally developed for promoting professional development of teachers mainly in primary and secondary education, but it has been applied also in early childhood education and higher education as well as some other educational fields. The model assumes a high level of professional autonomy and its theoretical foundation is based on the constructivist theory of learning, peer learning and narrative identity work. PGM is an example of an approach that does not rely on formal and institution-based occupational preparation. Instead, the PGM model deliberately merges the formal, nonformal and informal learning and thus reflects the general trends of informalization and formalization of professional learning. This study is based on a thematic review of 51 peer-reviewed publications about PGM in 2009-19. Research has focused on: 1) general aspects and characteristics of the implementation and dissemination of the model, and 2) mentors' and mentees' experiences. Qualitative approach has been dominant in research. The studies show that both mentors and mentees find PGM a useful tool for professional learning and well-being. Indirect influences have been reported about development of work communities. Main challenges in applying the model are lack of national agreement concerning the organization of PGM and allocation of mentors' and mentees' working time to PGM.

Keywords

Symposium #5: Grasping professional learning in social settings: towards innovative research and interventions

Coordinator(s) of the Symposium:

Maaike Endedijk, m.d.endedijk@utwente.nl, University of Twente, the Netherlands

Discussant of the Symposium:

David Gijbels, david.gijbels@uantwerpen.be, University of Antwerpen, Belgium

Abstract

Complex challenges, such as the energy transition, the digital transformation, and increasing social inequality cannot be solved by people working individually. People need to collaborate, share knowledge, and learn from each other to develop new ideas, and innovative solutions. With working in teams becoming a crucial aspect of everyday work-life, also professional learning takes place more and more in social settings. How this professional learning in social settings evolves and relates to team performance is more and more subject of study. However, doing research on professional learning in the daily social work context is complex and methodologically challenging. In the symposium we bring four studies together that all study different aspects of professional learning in various social constellations (e.g., self-managing teams, action teams) and contexts (teachers, ship crew, engineers) to show the scatteredness of the research in this field. The four studies will be presented briefly and serve as cases to answer the main question on how to forward research on social aspects of professional learning, both conceptually and methodologically. The second half of the symposium will therefore be reserved for a discussion taking place with the audience (using interactive presentation software) and inspired by provoking statements of two experts (Gijbels and Van den Bossche) and moderated by the chair. This interactive symposium will result in the identification of future lines of research on professional learning in social settings, and the development of ideas for innovative methodologies and interventions.

Keywords

Social learning, team learning, informal learning, collaborative learning, learning processes

Contributions

1 Computer-based decision-making and team learning at work

2 Context matters. The relation between school learning climate and teachers' social informal learning

3 When teams adapt: the dynamics of team performance, stress and team interaction.

4 Exploring the Temporality of Social Regulation in Relation to Team Decision Making at the Workplace

Symposium Individual Contribution: Computer-based decision-making and team learning at work

Author(s)

Angelina Berisha-Gawlowski*, angelina.berisha@uni-paderborn.de, Institute of Educational Sciences, Paderborn University, Germany

Christian Harteis, christian.harteis@uni-paderborn.de, Institute of Educational Sciences, Paderborn University, Germany

Abstract summary

In an increasingly digitalized and automated work environment, employees are more and more often confronted with computer-based decisions. However, it is empirically still unclear if employees react differently to computer- or human-based decisions. This contribution reports an exploratory experimental study on team learning processes. The study realizes a 2x2 factorial design (between subjects; factor 1: Decision human vs. computer; factor 2: Decision ratio performance vs. random) and forms 4 teams which have to solve a problem collaboratively. Problem solving is interpreted as team learning. The dependent variable is the team performance, i.e. the quality of the team solution. The research question is: How do interaction and team performance differ across the four teams? The team work on a standardized problem takes place in a video conference and is recorded for analyses of the interaction structures and communication contents. Additionally, a questionnaire sheds light into how the participants experience the teamwork. Analyses of emotional states and cognitive processes complete the study. This approach follows the assumption that the modus of team formation, which will be communicated to the participants, influences self- and team-perception and has, thus, effects on interaction and team performance.

Keywords

Team learning, professional development, virtual teams, computer-based decision-making

Symposium Individual Contribution: Context matters. The relation between school learning climate and teachers' social informal learning

Author(s)

Antoine Lecat*, antoine.lecat@uclouvain.be - IACCHOS, UCLouvain, Belgium

Isabel Raemdonck, isabel.raemdonck@uclouvain.be - IACCHOS, UCLouvain, Belgium

Simon Beausaert, s.beausaert@maastrichtuniversity.nl - ERD, School of Business and Economics, Maastricht University - The Netherlands

Abstract summary

This presentation considers the role of learning climate for teachers' social informal learning activities. Based on a dataset of 467 primary and secondary school teachers a structural equation model was tested, including learning climate dimensions as independent variables and social informal learning dimensions as dependent variables. In a follow-up post-hoc analysis, differences in social informal learning and in perception of the learning climate between four teachers' groups were tested. Results showed that especially the error-avoidance and the facilitation dimensions of the school learning climate predicted the extent in which teachers make use of their social informal learning activities. Second, it can be concluded that teachers undertake less social informal learning activities (feedback, help and information seeking) when they are highly experienced in teaching. They also use less the help they received, from their colleagues when having more professional experience. Third, our findings suggest that teachers with a permanent contract undertake less social informal learning activities. This study raises schools' and principals' awareness about the role of learning climate for fostering teachers' lifelong learning. Especially the fact that teachers are allowed to make mistakes and learn from them and feel supported are crucial factors. The present results also showed that more experienced teachers with a permanent contract undertake less social informal learning activities and make less use of the feedback, help and information received. In that sense, this study argues that the teacher career policy of permanent contracts must be reconsidered in the light of sustainable teacher professional development.

Keywords

Teachers, informal learning, social learning, learning climate, professional experience

Symposium Individual Contribution: When teams adapt: the dynamics of team performance, stress and team interaction.

Author(s)

Steffi Sassenus*, Steffi.Sassenus@uantwerpen.be, Faculty of Social Sciences, University of Antwerp, Belgium

Piet Van den Bossche, piet.vandenbossche@uantwerpen.be Faculty of Social Sciences, University of Antwerp, Belgium

Karolien Poels, karolien.poels@uantwerpen.be, Faculty of Social Sciences, University of Antwerp, Belgium

Abstract summary

Action teams cooperate in short-term and high-pressure missions in which conditions quickly change. According to the team adaptation model of Burke et al. (2006), successful adaptation consists of a four interaction-phases: situational assessment, plan formulation, plan execution and team reflectivity. Team process studies suggest that the number, the type, the sequence and length of the phases can differ among teams and is related to their performance. However, two critical aspects of the contexts these teams work in needs

further investigation: performance over time and stress. In this paper, we study the relationship over time between stress, team performance and how teams structure their interaction behavior to adapt to changing situational conditions. To accomplish this, we instructed students triads of the Maritime Academy to perform in a 2-hour long navigation exercise in a 360° bridge simulation. Team interaction behavior was video recorded and coded in the Observer XT software. Later, phases were identified based on the technic of Uitdewilligen & Waller (2018). A continuous performance rating is available through the simulator. Also, two expert identified mistakes based on the video. The stress level in the team over time was measured based on individual EDA and transformed into level and type of synchrony between the individual EDA tracks. First results will be available at the conference.

Keywords

Ship navigation – Team adaptation – stress – Team interaction

Symposium Individual Contribution: Exploring the Temporality of Social Regulation in Relation to Team Decision Making at the Workplace

Author(s)

Marijn Wijga*, m.wijga@utwente.nl, University of Twente, the Netherlands

Maaike Endedijk, m.d.endedijk@utwente.nl, University of Twente, the Netherlands

Bernard Veldkamp, b.p.veldkamp@utwente.nl, University of Twente, the Netherlands

Abstract summary

Research on students' collaborative learning has suggested that social regulation of learning in teams is a key factor in enhancing team performance. How these social regulation processes unfold over time and contribute to team performance in the context of workplace learning is still unknown. Therefore, this research will focus on exploring the process of socially shared regulation in teams in relation to successful team decision making. In this study, we tracked the social regulation processes of ICT-teams for several months by means of camera recordings of team meetings. With this intensive longitudinal design, we aim to show the unfolding of social regulation processes over time within and beyond meetings. Descriptive statistics and a process mining method called 'Fuzzy Mining' were used to analyze the data. Results show that team members often follow up on each other's regulation activities and only seldom change activities within a discussion. Less change in regulation activity is found in effective decision making than in ineffective decision making.

Keywords

Social regulation, process mining, decision making, software development

INDIVIDUAL PAPERS

Authors: Aitana Gonzalez Ortiz de Zarate (1,2); Kristin Holland (2)

Institution: (1) Madrid Open University, Spain, (2) College of New Caledonia, Canada

Contacting author: aitana.gonzalez@udima.es

Title: Training Evaluation to navigate the shortage of truck drivers in Western Canada

Abstract:

The extreme shortage of truck drivers in Canada is expected to increase, reaching up to 48,000 drivers by 2024 (CPCS, 2016). Transportation organizations are implementing training programs to deal with the shortage and lower the hiring requirements. This study aimed to evaluate the training implemented by a transportation organization in Western Canada and identify key results to be incorporated in their talent acquisition efforts. Data included surveys to trained (43) and non-trained drivers (18), driver reviews (75), and organizational metrics.

Results showed high perceived training transfer (M = 4.56, SD = 0.51) and perceived application (M = 3.93, SD = 0.15). High and medium-high levels for the factors of training, which correlated between them and with training transfer. Driver reviews did not differ between groups (TD: M = 1.02, SD = .05; NTD: M = 1,05, SD = .14; t (71) = -1.65, p > .05). Turnover cognitions and employee wellbeing did not differ between groups (TD: M = 1.64, SD = .91; NTD: M = 1.94, SD = 1.14; t (56) = -1.08, p > .05). First year attrition was higher before the implementation (28.57 < 62.50), retention rate and accident rate were higher after the implementation of the training (.08 >07; .24 < 7.77).

Results provide beginning of evidence for theory building in the areas of Human Resource Development and learning and professional development in the transportation sector. The evaluation procedure can be used by HR practitioners to evaluate training programs in the trucking sector.

Keywords: training evaluation, transfer, training transfer evaluation, training effectiveness, case study

Authors: Alberto Cattaneo (1); Luca Bonini (1); Martina Rauseo (1)

Institution: (1) Swiss Federal Institute for Vocational Education and Training, SFIVET, Switzerland

Contacting author: alberto.cattaneo@iuffp.swiss

Title: Digital competence profiles in VET schools: an individual snapshot and an institutional prospect.

Abstract:

Digitalization has strongly reappeared on the landscape of education, and in particular of vocational education. Promoting and improving the digital competence of vocational teachers is therefore essential to manage the school digital transformation process. Additionally, a specific professionalism to support such a process emerges as needed. This contribution presents two research and development initiatives taking place in Switzerland. They respectively aim at developing the professional profile of a digital animator, i.e. a pedagogically competent digitalized teacher who is also able to promote digitalization within educational institutions; and at providing data on the status quo of digital competence among VET teachers, which at the moment is missing in Switzerland. Both initiatives support with concrete piloting tools the digital transformation of VET schools.

Keywords: Digital competence, professional profile, vocational education, teacher CPD (Competence Professional Development).

Authors: Angelos Konstantinidis (1); Antoni Badia (1)

Institution: (1) Universitat Oberta de Catalunya, Spain

Contacting author: angelntini@uoc.edu

Title: In-service teachers' inquiry skills during an educational innovation: Examination of the relationships

Abstract:

Teacher inquiry is a widely recognised and vital form of professional development. Although research on the construction of the teacher- inquirer identity is growing, still little is known regarding the ways the teacher- inquirer identity is constructed and developed while teachers are engaged with an inquiry. This study aims to complement the research on teacher-inquirer identity by examining the relationships among the inquiry skills that teachers are engaged with while conducting an educational innovation in their settings. A quantitative questionnaire that measures teachers' inquiry skills (Konstantinidis & Badia, 2019) was shared on teachers' groups on social media and special interest online groups, and teachers who actively develop innovative projects with their classes were requested to fill it in. 111 Greek in-service teachers from all sectors completed the questionnaire. The analysis of the data showed that there is an overall strong relationship among the inquiry skills, while, on average, the shared variation among the inquiry skills is nearly 30%. Some skills (focusing, designing, implementing, evaluating, and reflecting) are more strongly connected than others, which suggests that they are highly interdependent. The results are essential for building our understanding regarding the teacher-inquirer identity and the complexities of teacher inquiry.

Keywords: Teacher inquiry, inquiry skills, in-service teachers, teacher professional development, correlations

Authors: Angelos Konstantinidis (1); Antoni Badia (2)

Institution: (1) Universitat Oberta de Catalunya, , Spain; (2) Universitat Oberta de Catalunya, Spain

Contacting author: angelntini@uoc.edu

Title: Differences among teachers in the development of the teacher-inquirer identity

Abstract:

While the need for educational innovation is widely advocated, educational reform programmes often fail in their implementation due to the resistance of teachers. However, when teachers are engaged with an educational innovation, they acquire significant learning outcomes in terms of their own professional development. This study focuses on the inquiry attitudes and competences that teachers develop when they are engaged with an educational innovation. A quantitative questionnaire that measures teachers' inquiry functions (Konstantinidis & Badia, 2019) was shared on teachers' groups on social media and on special interest online groups and teachers who actively develop innovative projects with their classes were requested to fill it in. 111 Greek in-service teachers from all sectors completed the questionnaire. The analysis of the results shows that in the context of an educational innovation in-service teachers develop identity elements related to inquiry to a varied degree. More specifically, four different clusters of teachers based on the development of the components of the teacher-inquirer identity are identified. The four clusters are clearly distinguishable in almost all identity components and can be indisputably ordered from low to high. The results confirm the development of inquirer identity by teachers who are engaged with an educational innovation and demonstrate that that happens to a varied degree.

Keywords: teacher-inquirer identity, educational innovation, in-service teachers, teacher professional development, survey

Authors: Anna Díaz-Vicario (1); Txell Zolle-Valero (1); Georgeta Ion (1)

Institution: (1) Universitat Autònoma de Barcelona (Spain)

Contacting author: anna.diaz@uab.cat

Title: How do primary teachers self-regulate their practice?

Abstract:

Self-regulation is an essential skill for professional development consisting in monitoring, regulate, control and improve own practice. In this contribution, we focus on the self-regulation strategies used by schoolteachers. The aim is to discover how teachers actively self-regulate their practice in day-to-day work. Eleven teachers from six different schools of Catalonia (Spain) participated in the study. Semi-structured interviews have been used to collect data, applying a thematic analysis process. The results show that teachers' plan, reflect and self-assess in a recursive process of self-regulation for practice improvement, with learning as a result. During the process, they use different sources of information: observation, class diary, feedback from peers, feedback from students, academic results, etc. We conclude that self-assessment, based on the reflection of the teaching practice, play a central role in teachers' self-regulation, contributing to teachers' professional development.

Keywords: Self-regulation; Teacher development; Primary school teachers; Reflection; Self-assessment

Authors: Bianca Steffen (1); Michael Goller (1); Christian Harteis (1)

Institution: (1) University of Paderborn

Contacting author: bianca.steffen@uni-paderborn.de

Title: Exploring the relationship between mental simulation and intuition in crisis response work

Abstract:

Intuition is an important quality of expertise which is developed through professionals' learning through experience. It can be defined as the knowledge base needed to recognise situational cues that allow experts to access memorized information spontaneously (Simon, 1992). An important contribution to the development of intuition comes from mental simulation. However, the relation between mental simulation and intuitive decision-making is not yet fully explained (Harteis, 2017). Only few empirical studies concerning this particular relationship exist. Crisis response workers (CRW) offer counselling and mental support to victims in emergency situations. So far, empirical research in the domain of crisis response is scarce. In conclusion, this contribution aims at (1) explaining how mental simulation contributes to the development of intuition and (2) presenting a model that distinguishes different modes of mental simulation according to the worker's stage of professional development.

Keywords: Expertise research, workplace-learning, interviews, content analysis, crisis response work

Authors: Carina Caruso (1); Michael Goller (2)

Institution: (1) University of Paderborn, Germany, (2) Otto-Friedrich-University Bamberg, Germany

Contacting author: ccaruso@mail.uni-paderborn.de

Title: Shedding light on internships at school: Taking student teachers' mentors' perspective

Abstract:

Internships are an important part of many teacher education programmes around the world. From a theoretical perspective, such internships aim at student teachers' development of competencies by experiential learning through the engagement in school practice as well as by relating those practice-based experience with theoretical and conceptual knowledge learned at university (e.g., Allen & Wright, 2014). Within the literature, mentors—that is, more experienced teachers that support, coach, and evaluate student teachers (e.g., Carver & Katz, 2004; Wang, 2018)—have been emphasised to play an important role in these development processes. In fact, without the guidance of more experienced practitioners, student teachers quickly lose themselves in the complexity of pedagogical situations, are incapable to recognize and interpret what is going on in schools, as well as are unable to reflect their experiences theoretically (Berliner, 2001). And although the importance of mentors have often been acknowledged (e.g., Caruso, 2019) almost nothing is known about the mentors' perspective on student teachers' internships as well as on the development processes they are supposed to support and supervise. The aim of this contribution is close this research gap. Based on an interview study with 30 experienced teachers that regularly serve as mentors during internships the following research questions will be answered: (a) What professional goals do mentors attribute student teachers' internships and how do they try to meet those goals? (b) What challenges do mentors face during their mentorship practice in the context of internships?

Keywords: mentors, internships, practice phases, teacher education, guidance

Authors: Claudia Koch (1); Anja Gebhardt (1)

Institution: (1) Pädagogische Hochschule St.Gallen

Contacting author: claudia.koch@phsg.ch

Title: Supporting young people facing transitional challenges – Possibilities for improving transitional options

Abstract:

In Switzerland, most young people manage the transition from compulsory school to vocational education and training without any problems. However, around 25% are confronted with transition difficulties. In the Canton of Zurich about 15% of young people take part in a transitional option. There is a broad and confusing offer of transitional options and the allocation of young people to the different options appears to be random. To get an overview of both the support needs of young people as well as the supply structures, we conducted a quantitative and a qualitative survey with providers of transitional options and with young people who take part in a transitional option in the Canton of Zurich.

The results show that 11.1% of the providers and 19.4% of young people considered the fit between young people's difficulties and the support services as unsatisfying. Young people experience a range of difficulties. The providers try to meet all the needs and are not distinguishable in terms of targeting their costumers. 55.6% of the providers reach their limits in addressing all these needs. 22.2% of all providers lack sufficient resources.

Based on these findings, a number of recommendations to improve transition options can be derived. The support services should target the individual needs of young people. Further, various actions to optimise the supply structure should be implemented (e.g., overview of transitional options, central office responsible for coordinating, systematic diagnosis of difficulties, specification or individualisation of programs).

Keywords: transitional options, vocational education and training (VET), support needs, support services, mixed-method research

Authors: David Guile (1)

Institution: (1) UCL – Institute of Education

Contacting author: d.guile@ucl.ac.uk

Title: Professional Expertise, Technology and Learning: towards a CHAT-based 'extended-techno-social' conception of the human-machine interface

Abstract:

There is a two-fold idea animating this paper: the development of Artificial Intelligence (AI) and its sub-field Machine Learning (ML) has significant implications for extant conceptions of, and the relationship between, human and machine intelligence and learning, and this poses problems for existing theories of learning and by extension theories of professional learning. The paper explores this contention through reference to Cultural-historical Activity Theory (CHAT). It argues that the extant conception of cultural tool and mediation in CHAT is unable to take account of the forms of learning made available to humans through ML, because tools are primarily seen as augmenting, rather than rearranging and reorganizing, human intelligence. Drawing Du Sautoy's notion of 'bottom up', ML and Clark's concept of the 'extended mind', and Frischmann and Selinger's concept of 'techno-social thinking', the paper firstly, reconceptualises the role of cultural tools and mediation in CHAT to enable the tradition to engage with ML and secondly, exemplifies its argument through reference to engineering professionals working with ML.

Keywords: Artificial Intelligence, Machine Learning, Extended Mind, Learning, Expertise

Authors: Eghe Osagie (1); Renate Wesselink (2); Vincent Blok (2); Martin Mulder (2)

Institution: (1) HAN University, the Netherlands, (2) Wageningen University, the Netherlands

Contacting author: renate.wesselink@wur.nl

Title: Learning Organizations for Corporate Social Responsibility (CSR) Implementation

Abstract:

Because corporate social responsibility (CSR) is potentially beneficial for companies, it is important to understand the factors that improve a company's CSR practice. Scholars hypothesize that facilitating learning organization characteristics may improve CSR implementation, as these characteristics stimulate companies and their members to be critical, learn from the past, and embrace change, but there is limited empirical evidence of this approach. This study addresses this gap by surveying 280 CSR professionals and performing bootstrap mediation analyses to test multiple hypotheses. Three out of seven learning organization characteristics, almost all on the governance level, play a key role in supporting CSR implementation: firstly, managers should encourage employees to learn (leadership for learning); secondly, a company should operate as an open system through which employees can adjust their practices based on community needs (system connection); and thirdly, groups should be enabled to operate in order to promote higher-order learning processes (group learning).

Keywords: corporate social responsibility, CSR implementation, learning organization, sustainable development, workplace learning

Authors: Ellen Nathues (1); Maaike D. Endedijk (2)

Institution: (1) University of Twente, the Netherlands, (2) University of Twente, the Netherlands

Contacting author: e.nathues@utwente.nl

Title: Exploring perceived differences in interorganizational teams: Helping or hindering collaboration?

Abstract:

Member differences are central tenets of contemporary team organizing. Among other types, interorganizational teams are formed to broaden the available pool of perspectives, capitalize on diverse knowledge, learn from each other's practices, and trigger creativity and innovation. Current research demonstrates the possibilities and potentials of difference-characterized teams yet is marked by what we term an isolation-perspective: investigating singular and researcher-generated difference dimensions along often static input-output models. Adopting an ego-network approach, we move beyond such single dimensions and study the multiplicity of differences that are salient to interorganizational team members, including how they help or hinder collaboration. This holistic angle reveals two main insights: First, deep-level and job-related differences are perceived as salient considerably more often than non-job-related and surface-level differences. Second, whether member differences help or hinder team collaboration and learning can be a function of interwoven relations with other differences or similarities. Our study thus not only presents a compilation of member differences that play in interorganizational teamwork, but also builds theory on how their implications can be dependent on the relations that surround them.

Keywords: Interorganizational teams, perceived member differences, ego-network insider approach, collaboration, learning

Authors: Ester Miquel (1); David Duran (1); Jesús Ribosa (1)

Institution: (1) Universitat Autònoma de Barcelona - Catalonia

Contacting author: ester.miquel@uab.cat

Title: Peer Learning Network, a professional development model based on teacher collaboration

Abstract:

This paper presents a part of a research that analyzes an in-service teachers' staff-development model: Peer Learning Network (PLN). It aims to show how teaching collaboration, as a main part of our staff-development model, allows teachers to achieve new learning and make professional development a reality. The specific part presented in this paper focuses on 1) identifying improvement in teachers' conceptual knowledge of the programme, and 2) describing and explaining the use of the new knowledge for making decisions to adjust the programme, and the supports needed for it to be successful. The study was conducted with 20 primary and secondary schools. 56 teachers participated in the PLN staff-development model to incorporate a peer-tutoring educational programme called Reading in Pairs, from one network in Spain during one academic year. PLN has different components to promote teacher collaboration: a) within school collaboration among currently participating teachers and with previously participating teachers; b) in the virtual platform; c) in three face-to-face staff-development sessions during which all currently participating teachers within the network collaborate. These situations enable learning among teachers and school development, in this case implementing an educational programme to improve students' reading comprehension.

Authors: Eveline Wuttke (1); Susan Seeber (2)

Institution: (1) Goethe University Frankfurt, Germany, (2) Georg-August-University Goettingen, Germany

Contacting author: wuttke@em.uni-frankfurt.de

Title: Individual and contextual influences on participation in CVET

Abstract:

Participation in further education is a central success factor for economic growth and societal as well as individual development (EU, 2000; Feinstein and Hammond, 2004). This is especially true in our day and age, because in most industrialized countries, labour markets and work processes are changing rapidly. Structural transformations are to be expected towards more knowledge-intensive production, methods and services. Therefore, the relevance of continuous vocational education and training (CVET) and lifelong learning is increasing from an individual and institutional as well as societal perspective in order to meet these challenges (Buslei et al. 2018, p. 6; Brynjolfsson & McAfee, 2014). Data on continuing education, however, show that not everybody participates in CVET (Boeren, Nicaise & Bart, 2010). Because little is known about influencing factors of participation, in our study we analyse such predictors for participation in non-formal and informal CVET measures.

Logistic regression models were run to explain participation in non-formal and informal CVET of employees with individual und company related factors. All models show a good explanation of variance (27% to 32 %). For non-formal CVET courses workplace-related benefits and company-based characteristics contribute the most to the explanation. In addition, age, self-efficacy, school leaving certificate, care activity (children/family members) and dynamic developments at the workplace are important explanatory variables. A comparison of the explanatory patterns between full-term and short-term CVET reveals many similarities.

Keywords: Continuous vocational education and training, informal learning, non-formal learning, participation in CVET, predictor for CVE

Authors: Georgina París (1)

Institution: (1) Universitat Autònoma de Barcelona, SPAIN

Contacting author: Georginaparis2@gmail.com

Title: Professional profiles and competences: Continuing Vocational Education and Training in Spain

Abstract:

Continuing Vocational Education and Training (CVET), conceived today as a semi-profession in Spain due to its lack of professionalism, needs a model of competences for their professionals. Such model must contribute to the definition of professional identity, from professional profiles to professional performance (functions, activities and competences -both specific and transversal-).

According to this context, the purposes of this research are the following: identifying CVET professional profiles, defining a frame of specific competences for each profile, describingcompetence units and professional activities for each profile and determining a transversal competence framework. In order to reach the aforesaid purposes Delphi Method was used; two rounds were applied and 60 experts in CVET participated.

Deepening in the findings of this research, it is needed to highlight three professional profiles that prevailed - training manager, trainer and mentor - and their respective specific competences and transversal, which are signs and guidelines to offer a prescriptive, andragogic and adjusted training program to CVET professional qualifications.

Keywords: Continuing Vocational Education and Training, professional profiles, professional competences, Transversals competences

Authors: Gerhard Messmann (1)

Institution: (1) University of Regensburg, Germany

Contacting author: gerhard.messmann@ur.de

Title: The Role of Empowerment and Reflection in Fostering Job Crafting and Innovative Work Behaviour

Abstract:

This paper aims at investigating the role of psychological empowerment and work-related reflection for enhancing innovative work behaviour (IWB) and job crafting. Such proactive behaviours are crucial as a response to increasing variability and change within workplaces and work tasks. Besides being driven by employees' empowerment, initiating proactive behaviours may be enhanced by work-related reflection through which employees may gain awareness for variations and inefficiencies in work processes. This issue was addressed in a cross-sectional questionnaire study with 295 employees in the information sector. Results of structural equation modelling provided support for the theoretical assumptions that psychological empowerment and work-related reflection facilitate job crafting and IWB. Results also showed that IWB may be enhanced indirectly through fostering job crafting. The paper highlights the importance of work environments that enable employees to experience their work as meaningful, make relevant choices, and carry out tasks they can perform competently and that have desirable outcomes. Likewise, employees should have sufficient opportunities to reflect and, thus, capitalize on their work experiences as these represent valuable resources for coping with future work situations. Moreover, the insight from this study should be used to design interventions that enable employees to strategically access and reuse their work experiences in situations that may require a proactive approach. Basing the intervention on cognitive flexibility theory, realistic cases of work situations involving variability and change may provide a basis for participants to develop multiple perspectives on the value of reflection for monitoring, facilitating, or flexibly adapting their work behaviour.

Keywords: proactive behaviour, job crafting, innovative work behaviour, work-related reflection, psychological empowerment

Authors: Gosia Iwaniec-Thompson (1)

Institution: (1) The Open University

Contacting author: gosia.iwaniec-thompson@open.ac.uk

Title: Older academics' learning: agency and affordances

Abstract:

Recent trends and future projections indicate a growing number of older academics. In the context of this study, they are defined as aged 50 and over based on statistical age brackets (OECD, 2008). Academics as any other workers need to continually update their knowledge and skills. Yet, empirical research of older academics learning is scarce.

Drawing on sociocultural theories, this ethnographic study explored learning activities and participatory opportunities to highlight interconnected relationships between agentic choices and work affordances that shape academics' learning experiences at work. The manifestation and construction of agency occurs when workers exert influence and take stances affecting their work and impact construal of their professional identity (Billett and Pavlova, 2005; Eteläpelto et al., 2013). Whereas, affordances are the dynamics of the workplace which enable or restricts engagement in learning opportunities. Affordances are negotiated by one's agency (Billett, 2001; Felstead et al., 2009).

The participants of this study were 11 academics aged 50 and over located in one UK university. Participants were interviewed on three occasions and observed at least twice in between interviews. Data from these semi-structured interviews and non-participatory observations were analyzed using inductive thematic analysis.

The findings indicate that agency is individually varied, temporally imbued, and manifested within constrained and resourced sociocultural workplace context. Differences were found in academics' agency regarding their research activity, job crafting, involvement and their participation in institutional leadership and management. Similarities were found regarding collaboration with other colleagues, pursuit of recognition and flexibility of work.

Keywords: agency; affordances; identity; older academics; HE

Authors: Helena Roig (1); Carla Quesada-Pallarès (1)

Institution: (1) Escola Universitària d'infermeria i Teràpia ocupacional de Terrrassa (UAB) , (2) Universitat Autònoma de barcelona (UAB)

Contacting author: helenaroig@euit.fdsll.cat

Title: The mentor's role in learning transfer of nursing professionals in Catalonia

Abstract:

Finishing the university degree and starting work is a great change for many students. In the field of nursing, there are several studies that explore the difficulties perceived by new professionals when they enter the labour market; evidence was found that several factors influence learning transfer acquired during the degree to the workplace. This paper aims to explore the mentor as an important piece when new nursing professionals access to work and in turn, as an element that helps learning transfer. We applied the METEnf to 198 nursing graduates -with 6 to 12 months of work experience after graduation. Results showed that the mentor is a factor not very consistent with the scientific literature. It is necessary to continue investigating why in the Catalan context the mentor is not acting as a key piece in facilitating learning transfer within health institutions.

Keywords: Novice nurses, mentor, transfer of training

Authors: Henny P. A. Boshuizen (1); Halszka Jarodzka (1); Charlotte E. Wolff (2)

Institution: (1) Open University Netherlands, (2) University of Iceland

Contacting author: els.boshuizen@ou.nl

Title: Teachers' perception of classroom events: Toward a theoretical model

Abstract:

This paper aims at developing a theoretical model that describes and explains differences between novice and expert teachers' perceptions of classroom events. Our theoretical model is based on our own research and theoretical notions such as teachers' professional vision, noticing, workplace learning, time-dependent modes of cognition, and situational awareness, combined with a knowledge restructuring theory on expertise development. We hypothesised a generic structure of classroom management scripts and described differences between expert and novice teachers in terms of knowledge organisation, as well as perception, situational awareness, mode of cognition and problem representation, drawing attention to differences in their recognition and representation of events. After a deeper analysis of the goal-structure of a lesson (embedded within a course) and the time-dependent and -sensitive processes it also has the potential of explaining noticing processes described by other researchers.

Keywords: Teacher expertise; 2) classroom management scripts; 3) situation awareness; 4) noticing; 5) modes of cognition

Authors: Ianina Scheuch (1); Stephanie Ducheck (2)

Institution: (1) TU Dresden, Germany, (2) BTU Cottbus, Germany

Contacting author: Ianina.Scheuch@tu-dresden.de

Title: Building Resilience with LEGO® Serious Play®: A play-oriented training approach for diverse teams

Abstract:

To meet today's demands and maintain high performance, teams need to develop resilience capabilities. However, until now, there has been only scant research on team-resilience capabilities and opportunities for their promotion. This study aims to narrow this research gap by focusing on the development of specific team-resilience capabilities in cognitively diverse teams. In detail, it explores how LEGO® Serious Play® as a game-oriented training approach can promote resilience capabilities. To answer this, we use a mixed method approach with an experimental character in the university context (N=125). For data collection, we used different data sources(e.g., videos, individual reports and questionnaires). Our comprehnsive data analysis shows thath that purposefully designed training with LEGO® Serious Play® has the potential to develop resilience capabilities for diverse teams. Based on our research findings, we identify several factors and themes and deduce recommendations for further research and practice in the educational and managerial context.

Authors: Inken Gast (1); Isabelle Knops (1); Therese Grohnert (1); Simon Beausaert (1)

Institution: (1) Maastricht University, The Netherlands

Contacting author: i.gast@maastrichtuniversity.nl

Title: A systematic review of professional development and well-being of academic staff

Abstract:

The quality of higher education is at risk due to decreasing well-being of academic staff. High job demands and labor shortages put pressure on academic staff resulting in increasing burnout rates and low work engagement among employees. Most staff members have to balance demanding teaching responsibilities and pressure to publish. According to the job-demands resource model, increasing job resources such as opportunities for professional development can counteract the negative effects of high work demands. In other contexts, professional development activities have already been positively connected to employee well-being. In higher education however, a comprehensive overview of the effects of specific professional development activities on academics' well-being, mediators of these relations and possible hindering or supporting factors, is still missing. The current systematic review study is aiming to fill this gap. The preliminary results show that various professional development activities, especially mentoring and feedback are effective in decreasing burnout symptoms and increasing work engagement. However, the main mediator of these positive relationships is the creation of informal social connections with colleagues. In a context in which employees are used to working independently and collaboration is still scarce, universities should try to foster more collaboration as well as knowledge exchange among academic staff, not only when it comes to research, but also when it comes to teaching.

Keywords: Professional development, well-being, burnout, work engagement, higher education

Authors: Irit Sasson (1,2); Itamar Yehuda (1,2); Shirley Miedijensky (3,2)

Institution: (1) Tel-Hai College, Israel, (2) Shamir Research Institute, Israel, (3) Oranim College, Israel

Contacting author: iritsa@telhai.ac.il

Title: Designing new learning spaces: What is the pedagogical value of the educational innovation?

Abstract:

Recent years have been marked by the development of new pedagogical models and the designing of new learning spaces in the educational system all over the world. The term \"new learning spaces\" refers to spatial designs that encourage and support dynamic, engaging and inspiring learning behaviors. The space serves as an agent to reconceptualize the learning environment to foster active, social, and experiential learning. This research examined an innovative educational program in high-school that serves as an applied example of the constructivist approach. The new learning environment develops gradually in the school alongside traditional learning environments, so that in one age group there are two forms of teaching and learning, which allows investigation of the new learning mode compared to traditional learning environment. Research about the effectiveness of innovative learning spaces is challenging. The aim was to characterize the pedagogical value of the educational innovation using 154 class observations and analysis of 157 learning tasks. A significant higher expression of active learning was found in the new learning spaces compared with the traditional classes. Tasks that encourage learners\' choice and adapted to differences between learners were significantly more common in the innovative classes than in the traditional classes. In addition, significant higher expression of creative thinking skill was found in the innovative tasks. Nevertheless, learning tasks express relatively low encouragement for problem solving, decision making, critical thinking, and high cognitive complexity in both types of learning environments. The study demonstrates a pedagogical characterization of educational initiative and hence its importance.

Keywords: Learning spaces, innovation in education, constructivist approach, high-order thinking skills, educational change

Authors: Jarise Kaskens (1,2)

Institution: (1) Windesheim University of applied sciences The Netherlands, (2) Radboud University The Netherlands

Contacting author: jmm.kaskens@windesheim.nl

Title: Effects of a training in dynamic math interviews on teacher competencies in adaptive math teaching

Abstract:

This exploratory study investigates in a 2-year repeated measures design whether participating in an intervention has impact on teacher competencies. The intervention in the second school year consisted of a teacher training program focused on acquiring knowledge, skills and a period of practicing in conducting math interviews with children to improve teacher competencies in adaptive math teaching. Repeated measures were used to assess teacher competencies in teaching mathematics in a sample of 23 primary school teachers in teaching mathematics on four time points (at the start and end of the school years 2016-2017 and 2017-2018); baseline measurements consisted of T1, T2, T3. The fourth measurement was taken after the intervention period at the end of the second school year (T4). Not correlating to these results, effect of the teacher training was measured with a video-assignment of a dynamic math interview. Transcribed videos of pre- and posttest were analyzed and a paired sampled t-test was conducted to compare differences between quality of math interviews before and after the training. The results of this study show that an intervention consisted of a training and practice in dynamic math interviews with pupils, contributed to improved teacher competencies in the context of adaptive math teaching education, especially teaching behaviour. As for educational practice, results suggest that mathematics education could benefit from the input obtained by interviewing fourth grade pupils. Student voice is powerful: talking with children with the aim to better meet individual pupil's math learning needs is relevant for daily math teaching practice.

Keywords: professional development, dynamic math interviews, teacher behaviour, self-efficacy, mathematical teaching knowledge

Authors: Kirsi Lainema (1); Kirsi Heinonen (1); Raija Hämäläinen (1); Teuvo Antikainen (2); Minna Ruoranen (2); Joni Lämsä (1)

Institution: (1) Faculty of Education and Psychology, University of Jyväskylä, Finland, (2) Central Finland Health Care District, Jyväskylä, Finland

Contacting author: kirsi.k.lainema@jyu.fi

Title: Learning in critical contexts: developing trauma teams' non-technical competences with simulations

Abstract:

Simulation training is a widely used method for training trauma teams in an authentic context. However, many trauma teams have deficiencies particularly in non-technical skills, such as leadership, communication and teamwork. Lack of these skills leads to sub-optimal patient care and the risk of critical incidents. In this study we investigate communication, leadership and collaboration in trauma simulations in a large hospital district. Audio and video recordings of trauma simulations are complemented with recordings of simulation debriefings and researchers' field notes. The analytical approach is drawn from ethnographic and ethnomethodological studies in medical contexts. The findings of the study reveal: 1. Communication mechanisms, patterns, and dynamics that are associated with efficient and fluent collaboration and communication in trauma teams. 2. How leadership practices, decision-making patters, and the team leaders' communication dynamics and sequences relate to the collaboration and teamwork in trauma teams. The findings of the study expand current knowledge on leadership and communication dynamics, patterns and practices in trauma teams, and show how these are associated with team collaboration, and ultimately, the outcomes of patient care in emergency rooms. The findings also suggest how simulation training should be developed to better encompass the non-technical aspects of teamwork. The study contributes to research on collaboration and teamwork in technology-rich working environments, such as hospital, and other critical contexts.

Keywords: trauma team, simulation training, collaboration, leadership, communication

Authors: Kirsi Lainema (1); Raija Hämäläinen (1); Kirsi Heinonen (1); Timo Lainema (2); Joni Lämsä (1)

Institution: (1) Faculty of Education and Psychology, University of Jyväskylä, Finland, (2) Centre for Collaborative Research, University of Turku, Finland.

Contacting author: kirsi.k.lainema@jyu.fi

Title: Teamwork in digital environments: understanding collaboration and communication processes

Abstract:

Digitalisation has radically affected work and changed the way we collaborate, communicate and organise our work. Present day digital competences comprise of both technological and non-technological competences, such as organisational and communicational competences. Alarmingly, the divide among employees' digital competences and skills has spread, especially among employees under 40 years of age. The invasiveness of technology at the workplace and the diverging skills and competences among employees put impetus for studying the level of technological skills and technostress, and the volume, frequency and nature of collaborative digital work among employees. This is also the purpose of our study. This study explores the level technological skills, technology use and technostress among knowledge workers and how technology and communication are associated with collaboration processes in teams engaged in synchronous digital teamwork. The data comprises of a survey study among knowledge workers in different types of organisations and, audio and video recordings of a series of business simulation sessions in which teams collaboratively managed their online companies. The study reveals how the collaborative processes in dispersed digital teams are influenced by technology and communication in teams. The study provides a comprehensive outlook on the employees' level of technology use and technological skills, and their association to technostress across industries and sectors. The findings expand current knowledge on factors affecting the skills and use of technology at work, as well factors affecting collaborative processes in digital teams.

Keywords: Digital collaboration, communication, technostress, digital competences, organising

Authors: Laurent Veillard (1); Jean-François Métral (1)

Institution: (1) Agrosup Dijon, France

Contacting author: laurent.veillard@agrosupdijon.fr

Title: Using hybridity to prepare students to work situations. 2 case-studies in the French initial VET system

Abstract:

Despite the increasing importance of workplace learning periods in vocational training courses, school workshops still play an important role in France to prepare students for managing professional situations. In this communication, we use the concept of hybrid pedagogical apparatus to analyse and compare two case-studies on two different school workshops. Our results show how heterogeneous elements (tasks, spaces, material objects, written documents, knowledge, rules, etc.) coming from both professional and academic organisations can be joined and organized differently according to the case, in order to prepare students for the workplace. These differences can be explain partly on historical choices specific to each field of training that we will explain in our presentation.

Keywords: Pedagogical apparatus; hybridity; vocational learning ; secondary VET

Authors: Leonie Jacob (1); Regina H. Mulder (2)

Institution: (1) Faculty of Human Sciences, University of Regensburg, Germany, (2) Faculty of Human Sciences, University of Regensburg, Germany

Contacting author: Leonie.Jacob@ur.de

Title: Perceived environmental uncertainty and its effects on proactive work behaviour in finance

Abstract:

Professionals who take a forward-looking perspective to anticipate and avoid problems and to take action without being told become increasingly important for organisations facing the challenges of continuous and (un-)predictable changes in the world of work. One option for meeting the demands is to promote competencies to be proactive among own employees. That would foster proactive work behaviour (PWB), (e.g. job crafting, innovative work behaviour (IWB)), when facing new challenges, adapt their environment actively and find innovative solutions. Little is known of how PWB can be fostered and what impact context characteristics have. Therefore, we investigated how different types of the multidimensional construct perceived environmental uncertainty at work (PEU) are related to PWB by carrying out a cross-sectional survey (N= 93) containing vignettes in the finance sector. The latent class analysis to identify individual differences among participants revealed four classes of finance professionals. Professionals of three classes strongly engage in PWB. Two classes imply a positive relation between PWB and PEU meaning that highly proactive professionals also perceive high uncertainty and vice versa. In the presentation we will further elaborate on how differences in PWB could be explained by specific class characteristics (i.e. finance professionals' goal adjustment capacity, person-vocation fit and attitude towards uncertainty) and discuss the implications for (our planned) innovative interventions (e.g. trainings) for professional development of finance professionals (e.g. analysts, asset managers, regulation officers).

Keywords: proactive work behaviour; perceived environmental uncertainty; latent class analysis; vignettes; finance sector;

Authors: Liesbeth Baartman (1); Tamara van Schilt-Mol (2); Cees van der Vleuten (3)

Institution: (1) Utrecht University of Applied Sciences, the Netherlands, (2) HAN University of Applied Sciences, the Netherlands, (3) Maastricht University, the Netherlands

Contacting author: liesbeth.baartman@hu.nl

Title: Programmatic assessment in seven different domains in higher professional education

Abstract:

Evidence of the value of programmatic assessment is emerging, but solely focuses on the medical domain. In programmatic assessment, an arrangement of different assessment methods is deliberately designed across the entire curriculum, combined and planned to optimize both robust (summative) decision making and (formative) student learning. In this study, we focused on programmatic assessment in bachelor/master courses outside the medical domain. Interviews were conducted with teachers/curriculum designers of seven different courses in higher professional education. We focused on: (1) why programmatic assessment, (2) the design and implementation process, (3) characteristics of curriculum/assessment, and (4) teacher and student experiences. Within case and cross case analysis showed examples of how programmatic assessment principles can result in different assessment designs. Similarities were found as well: in all cases, students collect evidence of learning in a portfolio, on which decisions are based, and (workfield) competences are used as a backbone for the design. Student and teacher experiences seem largely positive: students tend to focus on feedback and show more self-regulation. Training for teachers and students in feedback giving/receiving and their roles in programmatic assessment seem prerequisite for successful implementation.

Keywords: Formative assessment, programmatic assessment, higher professional education, student learning

Authors: Magali Roux (1)

Institution: (1) Université de Lorraine - LISEC EA 2310 (Laboratoire Interuniversitaire des Sciences de l'Education et de la Communication) / France

Contacting author: magali.roux@univ-lorraine.fr

Title: Political dimension of training : territorial and professional development of trainers in question

Abstract:

My proposal is related with my PhD research in educational sciences defended in France in May 2018. The title of this thesis is "Territory and training: development potentialities in question". This research aims to understand how policies for the professionalization of trainers contribute to the social transformation of the territory.

By understanding how this relationship works and identifying the dynamics and potentialities of development in process, we draw a model of the political dimension in the field of professional training, and made several proposals to act for innovation in this field.

The context of this research is situated at the crossroads of scientific and political ground. This thesis was financed by an agreement whose employer was a French Regional Council.

I would first show how trainers contribute to develop new forms of activities on a regional territory, and how much innovation is part of their role in actual society. Then, I would explain a proposition for action I made, that consists on a territorial living lab. To conclude, I would ask how innovation (Alter, 2002) in educational and training field take part of society regulation process.

Keywords: Training, professionalization, territory, regulation, development

Authors: Mandy Hommel (1, 2)

Institution: (1) TU Dresden, Chair Economics Education and Management Training, Dresden, Germany; (2) Otto-Friedrich-University Bamberg, Chair Economics Education, Bamberg, Germany.

Contacting author: mandy.hommel@tu-dresden.de

Title: Designing learning environments for Enterprise Resource Planning Software

Abstract:

Within a research project, it was investigated how the learning of enterprise resource planning software (ERP) is supported by different conditions of a formal learning setting. The learning environments were either built upon single steps to get familiar with software functions (click-instruction) or problem-oriented and based on business processes, in a single or dyadic learning condition. Data of knowledge pre- and post-tests were gathered. Additionally, generalized learning strategies and motivation have been controlled. The data show the best results of learners in the process-oriented dyadic condition.

Keywords: collaborative learning, Enterprise Resource Planning Software, ERP, process-oriented learning

Authors: Mariana Orozco (1); David Gijbels (1)

Institution: (1) University of Antwerp, Belgium

Contacting author: mariana.orozco@student.uantwerpen.be

Title: The Integration of Theory and Practice. Inferentialist Approach in Chemical Process Technology VET.

Abstract:

This study represents an effort to develop new insights into the integration of theory and practice, to understand the process of integrative learning and so to provide a more robust underpinning to new pedagogical approaches in technical vocational education and training. Brandom's inferentialist theory was adopted for providing a conducive framework for the study of integration. The central research question reads: How are theoretical and practical judgements brought together in discursive reasoning? An empirical study was set out in the context of alternating school-based and work-based learning in chemical process technology. The investigation proceeded according to a longitudinal qualitative approach. Repeated observations of the conversations within triads (student, visiting tutor and workplace mentor) were performed during naturally occurring evaluative-formative sessions. The results of the content-conversational analysis revealed that theory and practice appear integrated in discursive reasoning. This integration emerges as a process of progressive social reasoning in which theoretical and practical judgements co-construct chains of reasoning around concepts by 'simultaneously' advancing justifications, implications and critiques. Although much integration occurs naturally, over the one-year learning programme, there is a positive variation in the students and instructors' joint responsiveness to theoretical and to practical reasons. This is equivalent to claiming that integrated learning is taking place and that it results in growing mastery of concepts. The paper elaborates on the implications for educational practitioners and for researchers. The major novelty of this study resides in its inferentialist perspective on integration and in the operationalisation of this perspective into a research tool.

Keywords: process of integrative learning of theory and practice; inferentialism; mastery of concepts; alternating technical vocational education and training; content-conversational analysis

Authors: Mariel Musso (1); Eduardo Cascallar (2)

Institution: (1) CIIPME (CONICET), UADE, Argentina, (2) KU Leuven, Belgium

Contacting author: mariel.musso@hotmail.com

Title: Prediction and understanding of employee retention: a machine learning application.

Abstract:

The main objectives of this study were to develop accurate predictive models of "employee retention" and to understand the contribution of specific personal and organizational factors predicting this phenomenon. The participants were 993 employees (54.2% female) from different organizations in the private and public sector, age mean: 32 years old (SD= 10.33); seniority: 5.83 years (SD= 6.7). A socio-demographic questionnaire to collect personal background factors and an employee retention questionnaire were applied. Multilayer perceptron artificial neural networks (ANN) with a backpropagation algorithm were developed in order to identify employees with low intention to stay in the current organization (low 33%). ANN achieved a high accuracy in the training phase (77%), testing phase (100%), and validation set (100%) for the target group. A more accurate identification of those workers who have a low sense of belonging within the company, would allow a more targeted investment in personnel training.

Keywords: Machine learning, employee retention, neural networks, workplace.

Authors: Marlies de Vos (1,2); Liesbeth Baartman (2); Cees van der Vleuten (3); Elly de Bruijn (1,2)

Institution: (1) Open University of The Netherlands , (2) HU University of Applied Sciences Utrecht, The Netherlands, (3) Maastricht University, The Netherlands

Contacting author: marlies.devos@hu.nl

Title: How do workplace educators assess student performance? Studying judgement processes as they unfold

Abstract:

On-the-job training through workplace learning is often required in vocational education. At the workplace students are assigned a workplace educator who guides and assesses their performance. Assessment of workplace learning involves human judgement when we see the workplace as a participatory learning environment that is inherently social, and can be conceptualised as a process. How this process takes its course during the placement and how it culminates in a final judgement is yet unclear. To study how a workplace educator's judgement process unfolds, we conducted a longitudinal holistic multiple case study (n=3) which included weekly stimulated recall interviews and two types of non-participant observation. The collected data was condensed and organized into matrices and the analysis allowed us to identify significant moments for each case that changed or confirmed the course of the judgement process with regards to how educators gather information, what frames of reference they use, what activities they undertake, how they judge student performance and how confident they are about their judgement. This study gives insight into what workplace assessment can look like in real life and can help strengthen existing assessment practices.

Keywords: Workplace learning, assessment, judgement

Authors: Maximilian Kroetz (1); Viola Deutscher (1)

Institution: (1) University of Mannheim (Germany)

Contacting author: kroetz@bwl.uni-mannheim.de

Title: Differences in perception-How deviations in quality perception of trainees and trainers affect dropout in VET

Abstract:

The dual system of vocational education and training (VET) and its quality currently receive broad scientific attention due to high dropout rates and political efforts to increase participation in the system (Le Mouillour 2017; 2018). However, it is still controversial how and from which perception quality should be measured and how training quality affects dropout. Empirical studies mostly target quality perceptions by trainees or by trainers separately. The extent to which output factors like dropout-rates are influenced by varying perceptions of quality between both concerned parties is previously unobserved. The object of this study is to present a novel bilateral approach to training quality. Therefore, the effects of deviations in the perception of quality between trainees and trainers (incongruences) from the same company on dropout intention are examined. For this purpose, an online survey involving 311 commercial trainees and training officers from 30 companies was conducted. A framework model of workplace learning (Tynjälä 2013) and a respective short questionnaire "VET-LQI" (Böhn & Deutscher, in print) served as a research basis. Responses from trainees were matched to their trainers in order to determine possible deviations for every item and scale. Subsequently, 15 input- and process-quality factors of divergence could be used as independent variables in multiple regression analyses. The results show that differences in perception of quality not only have a significant effect on dropout intentions, but also explain dropout intentions more extensively than the conventional method of mere quality perceptions by trainees.

Keywords: VET; training quality; multi-perspective; deviations; dropout

Authors: Michael Goller (1); Bianca Steffen (2)

Institution: (1) University of Paderborn, Germany, (2) University of Paderborn, Germany

Contacting author: michael.goller@upb.de

Title: Student-run hospital wards: A mixed-methods evaluation study using a three-wave replication design

Abstract:

Student-run hospital wards (SHWs) are institutionalised learning arrangements in which nursing students are fully responsible for the planning, organisation, and implementation of patient care within a real-existing hospital ward for a limited time frame of usually two to four weeks during their initial nursing training. This contribution investigates three particular three-week SHWs conducted over three consecutive years using a theoretically-grounded research design employing both pre- and post-test questionnaires, as well as interviews. The design was developed to get comprehensive insights about why and how nursing students learn during their time in SHWs and what competences are developed. The data is analysed using a mixed-method approach within a replication framework (results of the second and third SHW will be used to test whether the findings of the first SHW can be replicated).

Keywords: nurses, student-run hospital ward, mixed-method, replication, workplace learning

Authors: Mieke Koeslag-Kreunen (1); Piet Van den Bossche (2); Marcel Van der Klink (1); Wim Gijselaers (3)

Institution: (1) Zuyd University of Applied Siences, the Netherlands, (2) University of Antwerp, Belgium, (3) Maastricht University, the Netherlands

Contacting author: mieke.koeslag@zuyd.nl

Title: Who leads? Shared leadership in teams for educational change

Abstract:

Reforming professional education into integrated programs such as project-based learning requires teamwork by teachers originating from different disciplines. Shared team leadership behavior may help teams to work on such complex tasks effectively, because single leaders alone simply cannot not provide all answers. However, studies on conditions for effective shared leadership are scarce. We examined if an influence of different styles of shared team leadership behavior on team performance is moderated by task complexity within 52 teams that needed to bring about change in professional education. Results show that when teams recognize their task is highly complex, jointly stimulating and structuring teamwork help teams to perform better. Accordingly, all members' leadership capacities are utilized to work towards educational change.

Keywords: Shared leadership, teams, task complexity, team performance

Authors: Mireia Mireya Giralt-Romeu; Eva Liesa; Paula Mayoral (1); Lorena Becerril (2)

Institution: (1) Universitat Ramon Llull, Spain; (2) Universitat Oberta de Catalunya, Spain

Contacting author: mireiagr3@blanquerna.url.edu

Title: Student teachers' positioning concerning their key learning experiences in the first research-based practicum.

Abstract:

This study aims to analyse how student teachers position themselves concerning the key learning challenges they have to face during the initial teacher education in a practicum based on a research-based approach. Twenty-seven student teachers were interviewed at the end of their first practicum to identify what the students viewed as key learning experiences and to determine how they positioned themselves concerning these experiences.

Two kinds of positions adopted by the student teachers were considered in this study: I as a student and I as a teacher. Our analysis shows how these two positions appeared concerning each of the key learning experiences identified. The results yielded five different types of key learning experiences related to: classroom instruction, socialization, the conflict between pre-existing conceptions and the reality, classroom management and inclusion in the schools. The difficulties students face in positioning themselves as teachers were found to relate to all these key learning experiences identified in the study except for those connected to do with classroom instruction. The results suggest that it would be beneficial to promote the reflection about key learning experiences during initial teacher education to assist students in assuming positions as future teachers.

Keywords: Key learning experiences, teacher professional identity, I-position, positioning, research-based teacher education

Authors: Patrick Beer (1); Regina H. Mulder (1)

Institution: (1) Faculty of Human Sciences, Universität Regensburg, Germany

Contacting author: patrick.beer@ur.de

Title: Effects of technology on work and its implications for interventions in CVET: a systematic review

Abstract:

New technologies are changing the way organizations operate and employees do their jobs. Technologies, defined as digital and mechanical tools that affect work tasks, may influence work characteristics, such as autonomy, complexity and meaningfulness. However, empirical evidence on this topic is rare and most likely scattered across disciplines. The aim of this study, which has since been further developed and published (Beer & Mulder, 2020) was to provide a systematic overview of the effects of technological developments on work characteristics. This was done to enable a discussion of work demands and their implications for innovative interventions in continuous vocational education and training (CVET). A systematic review of 21 studies from various disciplines, such as sociology and organizational psychology, revealed a complex impact of different technologies on work. Results of the systematic analysis show that complexity increases, especially while working with automated systems and robots. Workload and workflow interruptions increase as autonomy increases, especially when working with ubiquitous technologies, such as computers and information and communication technologies. Role expectations depend on the relationship between the profession and the technology (supporting vs. being supported), as do opportunities for development. These results have implications for the work demands (e.g. knowledge, skills and attitudes) needed to deal with new challenges resulting from technological developments and enable a discussion of the implications for various components (content, assessment, trainer behaviour, didactics) of formal learning environments when designing sustainable CVET interventions.

Keywords: Technology, digitisation, work characteristics, continuous vocational education, systematic review

Authors: Paul OLRY (1)

Institution: (1) AgroSup DIJON, FRANCE

Contacting author: paul.olry@agrosupdijon.fr

Title: Innovative Intervention at the workplace: a didactic intervention within a social service

Abstract:

Since 2012, the French Child Welfare sector is enjoined to move towards less assistance (from six to three months) to the families. The social services training centers took on board this new challenge: new academic courses were proposed to the future welfare workers, and trainers were committed to teach the required skills to achieve this. The range of change required to deliver such services being often underestimated, the social workers felt unskilled and lost confidence in their own ability to deliver a relevant advice. Our research take a way of a didactic intervention. We will present the conditions of such a way to pass from an issue of knowledge to an issue of practice.

Authors: Peggy Lambriex-Schmitz (1); Marcel Van der Klink (1); Simon Beausaert (2); Mien Segers (2); Inken Gast (2); Kim Schildkamp (2)

Institution: (1) Zuyd University of Applied Science, The Netherlands, (2) Maastricht University, The Netherlands

Contacting author: peggy.lambriex@zuyd.nl

Title: Innovative Work Behavior in educational teams: What and how

Abstract:

AbstractUniversity staff has to update their curriculum regularly to keep pace with the fast changing job market, technology in the classroom and newest insights in didactics. To design, develop and implement new curricula, a sufficient level of innovative work behavior (IWB) is necessary. Teachers have to possess competencies to create opportunities and, to generate, promote, realize and sustain ideas. They are the key to success of educational innovations, as they are the ones who must implement new ideas into practice (Fullan, 2007). Based on observations, this case study gives insight in, which specific behaviours a teacher team in higher education show, in the different phases of innovative work behavior, when designing, developing and implementing a new teaching module. Preliminary findings show that much attention was paid to idea generation. Idea promotion and idea realization criterion based implementation was not much observed. Finally, concerning idea sustainability, most behaviors aim at internal embedding. External dissemination (e.g. networking, up-scaling and communicating results and benefits) was not observed, which could have benefit the sustainability of the innovation.

Final results will be presented at the conference.

Keywords: innovative work behavior, teams, higher education, case study

Authors: Raija Hämäläinen (1); Kari Nissinen (2); Matti Taajamo (3); Joni Lämsä (4); Joonas Mannonen (5)

Institution: (1) Unversity of Jyväskylä Finland, (2) Unversity of Jyväskylä Finland, (3) Unversity of Jyväskylä Finland, (4) Unversity of Jyväskylä Finland, (5) Unversity of Jyväskylä Finland

Contacting author: raija.h.hamalainen@jyu.fi

Title: Technology-related knowledge, skills, and attitudes of teaching professionals

Abstract:

The ever-evolving technological landscape is challenging teaching professionals' pedagogical and technological knowledge, skills, competences and attitudes. To develop the future of education, we need empirical evidence of the current state of art, especially what kinds of digital readiness teachers possess to shape digital transformation in schools. this study complements previous case studies and focuses on providing an overall picture of teachers' knowledge, skills, competences and attitudes in the context of digital readiness. We apply two large-scale assessment data sets of teachers from 14 countries, namely Teaching and Learning International Survey (TALIS, n=62,272) and Programme for the International Assessment of Adult Competencies (PIAAC, n=5,830 for the subgroup of industry of education). This presentation furthers understanding of teaching professionals' digital readiness. We shall illustrate how teaching professionals' weak and strong problem-solving skills in the technology-rich environments (TREs) are associated with the explanatory factors of the digital readiness and how teaching professionals' attitudes are associated with the explanatory factors of the digital readiness.

Keywords: teaching professionals, large-scale assessment, digital readiness

Authors: Raija Hämäläinen (1); Kari Nissinen (2); Maarit Virolainen (3); Hanna Nygren (4); Joonas Mannonen (5)

Institution: (1) University of Jyväskylä, Finland, (2) University of Jyväskylä, Finland, (3) University of Jyväskylä, Finland, (4) University of Jyväskylä, Finland, (5) University of Jyväskylä, Finland

Contacting author: raija.h.hamalainen@jyu.fi

Title: Learning Through Work and Everyday Life: Problem-Solving Skills in TRE

Abstract:

Adults are currently facing major challenges from the new technological landscape, particularly in problem-solving in technology-rich environments (TRE). This presentation lies at the intersection of (1) 'research on learning through work' and (2) 'everyday practices. Our study utilizes data from the Programme for the International Assessment of Adult Competencies (PIAAC) to understand skills for solving problems in TRE in adults with a HE backgrounds (N=53,407). Firstly, the differences between the problem-solving skills of adults with a degree in HE and other adults (RQ1) were examined through a descriptive investigation of means and skill-level distributions by educational qualification. Secondly, we developed a model (via binary logistic regression analyses) to identify background factors associated with problem-solving skills in TRE (RQ2).

Keywords: Learning Through Work, Everyday Life, Problem-Solving Skills in Technology-Rich Environments, PIAAC, large-scale assessment

Authors: Rémi Scoupe (1); Simon Beausaert (2)

Institution: (1) Maastricht University (The Netherlands), (2) Maastricht University (The Netherlands)

Contacting author: scoupe-r@hotmail.com

Title: The development and validation of the Student's Perceived Employability Competencies Questionnaire

Abstract:

Nowadays companies expect from higher education to deliver graduates that are employable. In other words, students are expected to have certain generic skills, such as communication and team working skills, which are seen as necessary skills for a lifelong employment. The purpose of this study was to develop and validate a tool that assesses the employability competencies of students in higher education. On the one hand the tool allows for screening and evaluating employability competencies, on the other hand, it supports teachers to optimize their teaching practices, in order to develop students' employability competences. The development of the questionnaire was based on a systematic literature review. Data were collected through online questionnaires (N= 935) from undergraduate students, in Belgium. These data were randomly divided into two data sets to conduct an exploratory and confirmatory factor analysis in SPSS and AMOS, version 25. Results supported a seven-factor model. The seven factors were labelled as: collaboration, I-literacy, self-awareness and self-efficacy, creativity and initiative, balance, work effort, oral and written communication. Future research could make use of the questionnaire to screen students\' profiles and examine the relationship between teaching practices and students' employability competences.

Keywords: Employability, competencies, higher education, questionnaire, professional transition

Authors: Ria den Hertog (2); Henny P. A. Boshuizen (1)

Institution: (1) Open University Heerlen, the Netherlands, (2) Christelijke Hogeschool Ede, Netherlands

Contacting author: fdhertog@che.nl

Title: Theory-practice gap: Bachelor nursing students' knowledge outcomes in a competency-based curriculum

Abstract:

Since the start of college-based nursing education students and curriculum designers have struggled with a theory-practice gap between the knowledge that students learn in college and the effective use of professional knowledge by beginners in practice. To bridge this gap competency-based curricula and instructional designs, including authentic learning contexts and self-directed learning, have been deployed. The aim of the present research was to define and assess the qualitative features of professional knowledge of final year bachelor nursing students, the degree of compliance with knowledge requirements and their learning experiences in the competency-based curriculum. A multiple case study was conducted with semi-structured interviews, concept mapping, and a checklist on domain knowledge. Results show that a quarter of the 16 participants succeeds in gaining sufficient knowledge quality to start as a competent beginner. They had achieved a knowledge base in which instrumental domain knowledge was linked to or transformed into professional knowledge as a system of meaning, which is needed for solving non-routine problems in individual-tailored nursing care. Participants with medium and low appraisals of their knowledge qualities are not sufficiently able to do so. Thus, instructional designs as authentic learning contexts and self-directed learning were barely supportive for them in their learning processes. It is recommended to adapt the curriculum approach in such a way that less competent students are supported to develop their cognitive and metacognitive learning strategies. The model of integrative pedagogy emphasises forging connections between theoretical, practical, socio-cultural, and self-regulatory knowledge and thus increase their professional knowledge optimally.

Keywords: bachelor nursing students, competency-based curriculum, knowledge development, self-directed learning, learning experiences

Authors: Silke Fischer (1); Antje Barabasch (2)

Institution: (1) Swiss Federal Institute for Vocational Education and Training, Switzerland, (2) Swiss Federal Institute for Vocational Education and Training, Switzerland

Contacting author: silke.fischer@ehb.swiss

Title: Creativity in different occupations

Abstract:

Today, creativity is considered a success factor in many occupations and a core competence of the 21st century. Across disciplines creativity is defined quite differently. Most studies have been conducted in psychology, where creativity is understood as creating something novel and useful. In vocational education and training (VET), creativity is defined as problem-solving ability and ascribed to the interdisciplinary competences, which have now found their way into the preambles of curricula. Above that, creativity is always context-dependent in terms of work environment and the specific demands of an occupation; i.e. it can be assumed that different facets of creativity are relevant for different activities in different occupations. This interview study shows that in the three occupations studied (hotel communication specialist, sales clerk and commercial clerk (trade)), different facets of creativity are relevant to exercise the profession. While for hotel communication specialists divergent thinking, flexibility and openness to experience are important for professional purposes, for retail trade specialists divergent thinking, convergent thinking and associative thinking are mostly relevant.

Keywords: Vocational education and training (VET), creativity, creative potential, facets of creativity, occupational fields

Authors: Stefanie Findeisen (1); Andreas Juettler (1); Markus Neuenschwander (2); Stephan Schumann (1)

Institution: (1) University of Konstanz, Germany, (2) FHNW, Switzerland

Contacting author: stefanie.findeisen@uni-konstanz.de

Title: Explaining persistence intention in vocational education and training in Switzerland

Abstract:

As VET programs are typically faced with rather high dropout rates (e.g., 20.6% in Switzerland), we examine factors influencing trainees' persistence intention in VET (i.e. intention to complete the training program). Drawing on the model of Lent et al. (2013) we hypothesize that persistence intention is predicted by social cognitive factors (perceived person-job fit, self-efficacy expectations, outcome expectations, environmental support). We use data from a longitudinal study of Swiss trainees who are examined before (9th grade of general education) and after the transition from school to vocational training (n = 1.167). Structural equation modelling is used to test the hypothesized model. The analysis reveals acceptable fit indices of the model. Results show that persistence intention is directly predicted by perceived fit of the chosen profession and social integration in the workplace. We find indirect effects of self-efficacy as well as anticipated person-job fit (before the transition to VET) on persistence intention. The same is true for the relationship with both the trainer and the 9th grade teacher. Our work tests the replicability of the widely cited model of Lent et al. for adolescents at the transition to VET programs. We also contribute to the discussion on reasons for dropout intention in VET, which are not yet sufficiently examined.

Keywords: Training dropout, VET, persistence intention, person-job fit

Authors: Veronika Anselmann (1); Regina Mulder (2); Bärbel Fürstenau (3)

Institution: (1) University of Education Schwaebisch Gmuend, Germany, (2) University of Regensburg, Germany, (3) Technical University Dresden, Germany

Contacting author: veronika.anselmann@ph-gmuend.de

Title: Team Characteristics and Team Mental Models of Nursing Teams

Abstract:

Team mental models (TMM) can be described as shared knowledge by members of a team about key elements of their environment (Klimoski & Mohammed, 1994). Research indicates that TMM are important for team members in order to interact effectively (Cannon-Bowers, Salas & Converse, 1993). There is a need for innovative research on TMM in domains of growing complexity and increasing dynamic like nursing (Burtscher & Manser, 2012).The aim of this study is to analyse task-related TMM of nursing teams and to find out if teams with different TMM differ regarding their team characteristics, in particular in team stability, age and social cohesion.

We conducted a study with questionnaires. In total 107 nurses of 32 teams (N=32; n=107) participated. For measuring TMM a vignettes approach was used. To gather data about team characteristics, i.e. team stability and social cohesion validated scales were used.

Qualitative content analysis was carried out to categorize work activities mentioned by team members which build their team mental model. We calculated degrees of similarity for TMMs of different teams. We used latent class analysis to identify various TMM clusters with different team characteristics. We tested with ANOVA if differences were significant.

We were able to identify 98 concepts which represent single work activities. We were able to analyse similarity of TMM. LCA based on TMM similarity showed that teams could be categorized in three clusters. Teams of different clusters significantly differ regarding their team stability and teams with a high team stability do have high task-related TMM.

Keywords: team mental model, team stability, social cohesion, age, nursing

Authors: Victoria Murphy (1); Allison Littlejohn (2); Bart Rienties (1)

Institution: (1) Institute of Educational Technology, Open University, UK, (2) UCL Knowledge Lab, University College London, UK

Contacting author: victoria.murphy@open.ac.uk

Title: From research to practice: Designing workshops to engage practitioners with research findings

Abstract:

Member checking is an important technique in establishing the validity of qualitative research. However, while several papers have outlined potential pitfalls of obtaining feedback from participants during the research process, there is currently a lack of guidelines on what is required for high-quality member checking. This paper presents the results of a workshop that, inspired by the iterative nature of design-based research, was used as a way to both create a useful tool for organisations and as a way to gather feedback on the resonance of research results with participants. Data was collected in a mixed-methods design through observation, audio recording of group discussions, and two questionnaires. Analysis showed that engaging in the workshop helped participants develop a deeper understanding of the research results and helped the researcher understand connections between themes. Developing tools that participants can use to engage with the results of research helps to enhance the impact of research and allows data to be collected to more deeply assess internal validity.

Authors: Viola Deutscher (1); Anke Braunstein (1)

Institution: (1) University of Mannheim, Germany

Contacting author: deutscher@bwl.uni-mannheim.de

Title: Measuring workplace learning – A meta-analytic review

Abstract:

Workplaces provide learning opportunities to a varying degree depending on specific workplace characteristics and activities. There are different perspectives, ways and instruments to describe workplace learning (WPL) environments, though collecting data from workers by questionnaire instruments is the most common approach. In the present study, we aim at collecting existing survey instruments that intent to capture workers' perspective on workplace learning, and analysing them with respect to their item content, using the relatively new method of qualitative meta-analysis. We then integrate the items and resulting categories into the general model of workplace learning presented by Tynjälä (2013). So far, a total of 196 test instruments with 5.665 items (175 different test instruments representing 5.615 items) from 41 countries could be analysed by applying a qualitative meta-synthesis yielding eight content areas represented by 21 categories that can be assigned to input, process and output dimensions of workplace learning. With the proposed research map, we wish to give a broad overview of theoretical categories and research instruments prominent in current workplace learning research. Moreover, we intend to facilitate quantitative meta-analyses through this overview of related research. Finally, by providing an interactive item map, we wish to support researchers in finding suitable instruments when conducting new studies in the field of workplace learning and avoid unnecessary redevelopments.

Keywords: qualitative meta-analysis, measurement instruments, workplace learning

Authors: Alba Vallés (1); Marc Clarà (1)

Institution: (1) University of Lleida, Spain

Contacting author: valles.sisamon@gmail.com

Title: Formative Intervention to promote and study Teacher Resilience

Abstract:

Formative Intervention has emerged as an alternative methodology to address intervention research. This paper presents the design of an intervention based on Formative Intervention Research to promote Teacher Resilience. This intervention is generated having into account two matters. First, the conceptualization of Teacher Resilience from a Cultural Psychology approach and second, the understanding of intervention research as a process whose ultimate objective is to trigger agency in the participants regarding the problems they face.

In this paper, we first present the conceptualization of Teacher Resilience as an activity where the teacher is in relation with a situation of adversity, but she is positively adapted. In this conceptualization, characteristics of the meaning that mediates this activity deserve a special attention as it becomes a central aspect of our intervention. After that we pose the main features of Formative Intervention Research as guidelines to design our intervention. Finally, we present the main features of the intervention reified as a formative space that we have called "Unity of Support for Novel Teachers".

Keywords: Teacher Resilience, Cultural Psychology, Formative Intervention Research, Professional Development, Agency

Authors: Alessia Evi-Colombo (1); Alberto Cattaneo (1)

Institution: (1) Swiss Federal Institute for Vocational Education and Training, Switzerland

Contacting author: alessia.evi-colombo@iuffp.swiss

Title: Knowledge acquisition in nursing education through video-based collaborative learning-by-design

Abstract:

This exploratory quasi-experimental study set in the authentic learning environment of a nurse education course, is informed by the notion of hypervideo as a dynamic and collectively built information space and by the theoretical framework of Video-supported Collaborative Learning-by-Design (VSC-LBD). The study focuses on enhancing nurse students' procedural knowledge on urinary catheter insertion through the use of a digital video authoring and video annotation tool (iVideo.education). Divided into small groups and using the authoring tool, a first second-year class is requested to video record the simulated nursing procedure from scratch and then to turn it into an interactive learning hypervideo. A second class is given the above-mentioned video recording, asked to turn it into a hypervideo, and finally requested to provide video-annotated feedback to the other groups' hypervideos in order to collaboratively define the "best video" to be used as a learning resource. A third class attending a traditional lesson has served as a control group. Pre- and post-test were used as a measure of procedural knowledge acquisition. Preliminary findings show that students working with VSC-LBD significantly outperformed the students in the control group. No differences can be found with respect to using an existing video or building it from scratch. Notwithstanding its limitations, the study contributes to shedding light on the value of VSC-LBD in authentic learning environments.

Keywords: Learning-by-Design; Collaborative Learning; Video-based learning; Hypervideo; Procedural knowledge.

Authors: Alexander Brodsky (1); Jürgen Seifried (1)

Institution: (1) University of Mannheim, Germany

Contacting author: brodsky@bwl.uni-mannheim.de

Title: Professional Development through Workplace Experiences in Dual Higher Education

Abstract:

Dual higher education programs combine studies at universities/colleges with in-company work experiences. In Germany, both the number of study programs and enrolled students increases constantly. While many providers of such study programs promise graduates with a high degree of employability, only little is known about the internships embedded in dual study programs at the current state of research. For example, it is largely unclear which learning and working tasks the students perform/observe at the workplace and what impact internships have on students´ competencies. Therefore, we analyze three internship semesters embedded in a dual higher education program by using learning diaries and additional surveys concerning aspects as the students´ prerequisites or the perceived competence development. Results show that the students mostly observe colleagues at the beginning of their internship while the share of self-performed tasks slowly increases during the duration of the program. Both observations and self-performances seem to be important in developing the students´ competencies. The perceived competence development varies between different areas of competencies (professional, methodological, personal, or social competencies) and stages of the study program.

Keywords: Workplace learning, competence development, professional development, learning potential, task frequencies

Authors: Angelina Sánchez Martí (1); Héctor Fernández Sequi (1); Anna Ciraso-Calí (1, 2); Carla Quesada-Pallarés (1); Pilar Pineda-Herrero (1)

Institution: (1) Universitat Autònoma de Barcelona, Spain; (2) Universitat de Barcelona, Spain

Contacting author: angelina.sanchez@uab.cat

Title: Students' enrolment profiles in Vocational Education and Training in Catalonia

Abstract:

This paper presents the design and first results of one of the objectives of the FP30 study, aimed at analyzing the professional training needs to be met in Catalonia, through VET. Specifically, we present the results coming from the comparison among all the learning modalities of the VET programs (online, face-to-face, and dual modality) in terms of efficacy. This analysis specifically focuses on the entrance profiles of students when they first enroll in VET studies, and how this might affect their competence development (self-regulated learning, critical thinking, communicative competences, and teamwork). To do so, a panel survey study was designed with three main waves. The preliminary results presented herein are part of the first wave, which give account of the students' profiles at the entrance of the VET modalities, and their initial competence development. Main findings happen to be a resource for VET researchers and practitioners to help them understand, on the one hand, their students' characteristics when starting the program and, on the other hand, opens the discussion to think strategies to promote their engagement and competence development throughout the course.

Keywords: VET, professional development, competence development, learning modality, survey research

Authors: Anja Gebhardt (1); Han Sam Quach (1)

Institution: (1) Pädagogische Hochschule St.Gallen, Switzerland

Contacting author: anja.gebhardt@phsg.ch

Title: Revealing the Living Environments of Apprentices – Challenges in their Professional and Private Life

Abstract:

In this paper we focus on challenges apprentices experience in their professional and private life. In this context, we refer to developmental tasks associated with adolescence on the one hand and critical life events and everyday problems on the other hand. Furthermore, we analyse potential differences concerning perceived challenges based on a range of socio-economic characteristics of apprentices and professional fields. Data of 953 apprentices was gathered in spring 2018 in the German-speaking part of Switzerland by using a questionnaire. We inquired the challenges experienced by apprentices with two open questions. Additionally, socio-economic characteristics of the apprentices as well as information on vocational education and training were recorded respectively. The participating apprentices undergo vocational education and training in twenty different professions and ten different professional fields. The research team evaluated the answers by applying qualitative content analysis. The development of the categories and the coding procedure was executed in two stages and values of Kappa indicate satisfactory inter-coder reliability. Since 89% of participating apprentices report challenges in their professional life and 81% also elaborate on challenges in their private life, there seems to be a great need for communication among apprentices. Concerning challenges in private life apprentices mainly refer to social relationships and work-life-balance. The two focus points with regard to challenges in apprentices' professional lives are the perceived heavy workload and the burden of studying that leads to performance evaluation. Differences in relation to gender, migrant background, and professional fields are rather small.

Keywords: Living environment, Challenge, Apprentice, Survey, qualitative content analysis

Authors: Anja Winkler (1); Daniela Freisler-Mühlemann (1)

Institution: (1) Berne University of Teacher Education Switzerland

Contacting author: anja.winkler@phbern.ch

Title: The importance of social and personal resources in the career entry of teachers

Abstract:

The process of professionalizing teachers covers the entire professional biography. Career entry is seen as a vulnerable phase (Terhart, 2011), which challenges teachers with new requirements that they have to deal with independently and thus brings about a further development of the skills relevant to the profession (Hericks, Keller-Schneider, & Bonnet, 2019. In this phase, social and personal resources are of great importance (Freisler-Mühlemann & Schafer, 2019). As a social resource, workplace support in particular is of central importance for dealing with demands, professional well-being and professional competence development (Rothland, 2013). The use of social resources is related to personal resources in that young teachers interpret the new requirements differently and deal with them in different ways (Košinár, 2014). With this background, the conference paper focuses on the question of how and when teachers can make use of social and personal resources when starting their careers. To this end, 24 interviews were conducted with primary teachers in the Canton of Berne (Switzerland) and evaluated on the basis of the Kuckartz (2018) qualitative content analysis. The first result show that the young teachers show a close reference person, who can vary in their function and thus not only the support offer of the Berne University of Teacher Education (PHBern) is used. Personal resources develop in the career entry phase, where they have to be experienced and used (self-reflection). In these areas, too, reference is made to social resources, but much less frequently than in the above-mentioned areas.

Keywords: Teacher, career entry, challenges, job orientation, interview

Authors: Anna Keller (0,1); Antje Barabasch (1)

Institution: (0) Swiss Federal Institute for Vocational Education and Training SFIVET, (1) Swiss Federal Institute for Vocational Education and Training SFIVET

Contacting author: anna.keller@ehb.swiss

Title: Coaching practices at the workplace – three case studies

Abstract:

Coaching is increasingly used in the accompaniment of apprentices in VET among the trainers at the workplace. It is carried out on different organizational levels and is shaped by institutional and sectoral characteristics. This paper discusses different applications of coaching in workplace training on the base of the data from three large case studies from the telecommunication sector, the public transportation sector and the post in Switzerland.

The understanding and practice of coaching differs in the three cases, which corresponds with the different structural conditions of apprenticeship training. The cases differ in how clearly the role of the coach is conceptualized and to what degree the corresponding practices are spelled out or left to individual interpretation. The presentation provides insights into the different coaching practices in respect to their pedagogical roles and impact referring to institutional characteristics but also to professional backgrounds of the persons assuming the role of the coach. It discusses strength but also possible conflicts that this professional role brings about.

Keywords: Innovative workplace training, coaching, workplace trainer

Authors: Carina Caruso (1); Christian Harteis (1)

Institution: (1) University of Paderborn, Germany

Contacting author: ccaruso@mail.uni-paderborn.de

Title: Counseling sessions in internships: how best to support the professional development

Abstract:

The vast majority of research on teachers' professional development focuses on formal learning in educational institutions. Competence-based teacher training raises questions for empirical research particularly regarding the impact of internships and practice phases as regular components of curricula: In accordance, many teacher education programmes implemented long-term internships. These internships aim at the development of competencies (Baumert & Kunter 2006) by experiential learning through practice and at relating theory and practice. This contribution discusses findings of a study that investigates didactical skills of teacher students at the end of a long-term internship (5 months during the second study circle) as well as their statements especially on the general conditions and requirements of their internship in German schools. The study analyses how and what kind of didactic issues are objects of counseling sessions. The findings reveal (i) that the reflection of teaching experiences occurs superficially only, (ii) that students exhibit shortcomings at the level of theoretical knowledge and (iii) that counselling sessions do not at all cover reflections upon the relation between theory and practice. The findings also reveal that mentors do not follow any systematic concept of counselling. Hence, the current practice of internships does not utilize their potential for professional development.

Keywords: internships, practice phases, teacher education, counseling, mentors

Authors: Carles Bruguera Trabal (1); Montse Guitert Catasús (1); Teresa Romeu Fontanillas (1)

Institution: (1) Universitat Oberta de Catalunya (UOC), Spain

Contacting author: cbruguerat@uoc.edu

Title: Social media for professional development: a multiple case study of communication professionals

Abstract:

Social media platforms offer many opportunities to today\'s professionals in terms of learning and professional development, although very few studies have focused on its opportunities for the communication field. This paper presents an exploratory study that examines the contribution of social media in the professional development of communication professionals. Using a qualitative approach, we explored the learning ecologies of a selected sample of 10 outstanding communicators, under the name of 'Influential Digital Communicators' (IDC). Having taken great advantage of social media, the in-depth understanding of how these professionals learn can offer clues to the set of communicators. From a multiple case study of 10 IDC of Spain, a thematic analysis of the data obtained from semi-structured interviews, online observation and document review was conducted, in order to identify the most relevant aspects of the data. Findings revealed that IDC develop rich systems of activities, relationships and resources to continuously keep up to date professionally in which social media occupy a prominent position. As opportunities highlighted by the IDC social media supports quick day-to-day updating; facilitates that informal learning needed after formal training; help to overcome spacetime and economic barriers that prevent from participating in activities such as seminars or congresses; allows to connect with other professionals and create a sustainable network, especially Twitter. Nevertheless, data manipulation, privacy conflicts and trolls are the main concerns that can prevent using social media for learning and professional development. Implication of findings for other communication professionals are also discussed.

Keywords: Professional Development, Lifelong Learning, Learning Ecologies, Social Media, Communication professionals

Authors: Cathy Grist (1); Lori Caudle (2); Myra Watson (3)

Institution: (1) Western Carolina University, USA, (2) University of Tennessee, USA, (3) Western Carolina University, USA

Contacting author: clgrist@wcu.edu

Title: Learning a Math Curriculum through an Early Childhood Teacher Professional Learning Community

Abstract:

Professional Learning Communities (PLC) are seen as a key setting for providing professional development for teachers working in the field of early education. PLCs provide ongoing forms of support for early childhood educators and create a culture of continuous improvement (Dogan, Pringle, & Mesa, 2016) as well as, facilitating participants' ability to critically reflect on their practice. In the current research study, six preschool teachers, participated in 4 PLC meetings, which consisted of providing guidance and coaching on the curriculum content, which sometimes included several weeks of math content. Participants' knowledge gained over time was analyzed by using codes created by Popp and Goldman (2016). Data were analyzed by coding chunks of words, phrases, and sentences. The codes were divided into to two categories: discourse moves associated with knowledge building and discourse moves not associated with knowledge building. Each theme was further broken into more specific codes. The following in-depth codes were considered discourse moves associated with knowledge building: questioning, proposing, elaborating proposals, negotiating, and explaining thinking. The following codes were categorized as discourse moves not associated with knowledge building, which included agreeing and describing. Participants used 3 codes the most often, which included questioning, describing, and agreeing. Questioning is considered a discourse move associated with gaining knowledge, and 2 codes, describing and agreeing are considered to be discourse moves not associated with gaining knowledge. 42% of the coded data fell into the category of discourse moves associated with gaining knowledge, which is a high occurrence of gaining knowledge.

Authors: Christin Siegfried (1); Josephine Berger (2)

Institution: (1) Goethe University Frankfurt, (2) Darmstadt University of Technology

Contacting author: siegfried@em.uni-frankfurt.de

Title: Perspectives on Participation in Continuous Vocational Education Training - an Interview Study.

Abstract:

In European industrialised countries, a large number of companies in different sectors such as healthcare, catering and technology are affected by demographic, political and technological developments resulting in a shortage of skilled workers. Consequently, employers have to address workers who have not been taken into account such as low-skilled workers, workers returning from a career break, people with a migrant background, older people and jobseekers and train them, in order to guarantee the professionalization of this workforce. In this context CVET (Continuous Vocational Education and Training) is seen as an indispensable tool. However, participation rate on CVET seems to differ depending on institutional factors (such as sector and size of the company) and individual characteristics (such as qualification level, migration background, age and time of absence from work).In contrast to previous research, our study aims to provide a holistic view of reasons for and against CVET, combining the different perspectives of employers and (potential) employees. The analysis of reasons and barriers was carried out based on 172 semi-structured interviews with (57) employers, (73) employees and (42) jobseekers from different branches and different individual characteristics.Results point to considerable differences in the reasons and barriers mentioned by the disadvantaged groups. These differences are particularly significant between employees on the one side and employers as well as jobseekers on the other side, while the reasons to attend CVET of jobseekers are more similar to those of employers.

Keywords: Continuous Vocational Education Training, (prospective) disadvantaged employees, reasons and barriers, interview study, employers

Authors: Edith Mariana Rebollar-Sánchez (1); Carla Quesada-Pallarès (2); Marina García-Carmona (3)

Institution: (1) ISCEEM, México, (2) Universitat Autònoma de Barcelona, Spain, (3) Universidad de Granada, Spain

Contacting author: marianresa@gmail.com

Title: Professional development and management function at the university: an approximation to Mexico and Spain

Abstract:

Managerial positions in higher education has been a topic highly explored, as well as the role that leadership plays in this type of institutions. However, training needs of managerial positions are less explored. The aim is to explore the current situation of managerial positions with the intention of identifying, from the point of view of Deans, their perception of the function and practice that lead us to determine the training needs of managers. The study is an empirical investigation on the exercise of the function and the managerial practice; the problems and obstacles that appear in the development of the managerial work; the received managerial training and training expectations. 16 interviews were conducted in four public universities: two Mexican and two Spanish. The training needs analysis pointed out that there is lack of training for accessing and holding managerial positions and that Dean usually succeed in their position if they had previous managerial and administrative experience. The paper discusses the implications of it and how universities should address this issue.

Keywords: Dean, managerial positions, professional development, training needs, higher education

Authors: Hege Hermansen (1)

Institution: (1) Department of Education, University of Oslo, norway

Contacting author: h.y.hermansen@iped.uio.no

Title: Tracing the enactment of teacher educators' agency in program design and the development

Abstract:

This paper examines teacher educators' enactment of agency as an integrated part of program design and development. Over the past decades, teacher educators have faced increased expectations of program re-design and development, with the overall aim of improving both the quality of teacher education and the quantity of qualified teachers. However, very little research has examined how program leaders go about this work, and how agency is enacted by teacher educators in the context of developmental processes. This paper reports from a qualitative research project examining the work of 20 teacher educators at four Norwegian higher education institutions. More specifically, the empirical analysis addresses how program leaders enact agency as part of efforts aimed at program design and development. Theoretically, the paper is situated within cultural historical approaches to agency. Conceptually and analytically, the paper foregrounds how program leaders recognise and respond to the demands inherent in their practices, and how the cultural tools associated with these practices create affordances and constraints for the enactment of agency. Three specific approaches to program development were identified, in which program leaders worked agentically to expand their room for manoeuvre: i) Opening up spaces for joint interpretations of the object of activity; ii) making participants\' contributions visible to each other; and iii) expanding identities as teacher educators. Implications for program development and leadership in teacher education are discussed.

Keywords: teacher education; agency; program design; higher education; program leadership

Authors: Manuel Längler (1); Markus Nivala (2); Jasperina Brouwer (3); Hans Gruber (1,4)

Institution: (1) University of Regensburg, Germany, (2) University of Gothenburg, Sweden, (3) University of Groningen, The Netherlands, (4) University of Regensburg, Germany, University of Turku, Finland

Contacting author: helen.jossberger@ur.de

Title: Quality of network support for deliberate practice of popular musicians

Abstract:

To acquire of expertise in music individuals undergoe different phases deliberately practicing domain specific activities. Deliberate practice has certain prerequisites which need to be supported by network actors. Research terms those actors "persons in the shadow", because they are often imperceptible by external persons. Systematic research revealing who these "persons in the shadow" are and how they support deliberate practice of popular musicians during career phases, is missing. The aim was to investigate the differences between expert and intermediate popular musicians regarding the composition of network actors and their support for deliberate practice during three career phases (childhood/apprenticeship/career)? An ego-centric mixed-method social network design with semi-structured interviews investigated the role of network actors regarding deliberate practice. Ten musicians at different skill levels (five experts/five intermediates) participated. The experts and intermediates were selected based on a theory-driven catalogue. The interview data was analysed, and quantitative data produced by a ten-step approach. The interrater reliability comprised a Cohens Kappa $\kappa = .96$. The results indicate that expert popular musicians perceived band members and instrumental teachers as mainly supportive for deliberate practice during childhood and apprenticeship. Experts had various teachers since their childhood and changed their bands frequently during their whole career. The constant change in the network confronted the experts with music from various genres, which expanding their overall musical knowledge. In contrast to the experts, the networks of intermediates changed modestly during their career. Surprisingly, parental support for deliberate practice was barely perceived in both groups.

Keywords: Expertise, deliberate practice, social networks, music, developmental phases

Authors: Irene Eegdeman (1); Chris van Klaveren (1); Martijn Meeter (1)

Institution: (1) VU Amsterdam, The Netherlands

Contacting author: i.eegdeman@vu.nl

Title: Expectations and Study Success in Vocational Education

Abstract:

Unrealistic expectations with regard to one's study program may have negative consequences for future study success. Previous studies are often retrospective, and focus on output-related expectations (e.g. expected grades), while unrealistic expectations about study effort and content (input-related expectations) may be more relevant for explaining substantial dropout in tertiary education. This study prospectively investigates whether input-related expectations elicited before the start of the program are realistic and associated with subsequent dropout and academic performance. Our results show that dropped-out students did not differ in their input-related expectations from successful students. Still, when retrospectively asked, 50% of the students answered that the concerning program did not fit. This suggests that retrospective reports of inadequate expectations may not reflect deficient expectations before starting the program. Instead, tertiary educational programs may defy expectations in both successful students and later unsuccessful students, with surprises being pleasant for successful students and unpleasant for unsuccessful ones.

Keywords: student expectations, vocational education

Authors: Jesús Ribosa (1); David Duran (1); Marta Flores (1); Ester Miquel (1)

Institution: (1) Universitat Autònoma de Barcelona, Spain

Contacting author: jesus.ribosa@uab.cat

Title: Student teachers' perceptions and learning evidence from a co-teaching practice in schools

Abstract:

Evidence supports the potential of co-teaching, but its practice is not widespread in schools yet. Research points to the need of helping teachers become aware of how co-teaching can help them learn from and with other teachers. In this study, participants were 28 student teachers who received conceptual training and experienced co-teaching in schools. The aim of this paper is to explore the learning benefits of this co-teaching practice. Three research questions are posed, focusing on (1) students' learning perceptions, (2) learning episodes in the out-of-class joint activity, and (3) comparison between student teachers' learning perceptions and contents from the learning episodes. Results show that student teachers reported they learnt, especially how to work together, how to implement more elaborate lessons and how to improve professionally. These learning perceptions are supported by the learning episodes identified, which take up more than half of the time of interaction. However, there is not always a clear match between student teachers' perceptions and contents from the learning episodes. Research implications and limitations are discussed.

Keywords: Co-teaching, Peer learning, Pre-service teaching, Teacher Collaboration, Teacher training

Authors: Jolanda Botke (1); Marianne Van Woerkom (2)

Institution: (1) Vrije Universiteit Amsterdam, The Netherlands, (2) Tilburg University, The Netherlands

Contacting author: jolanda.botke@home.nl

Title: The effect of a self-leadership training on detached concern of police professionals

Abstract:

Balancing professional distance and personal involvement is important in situations where professionals are exposed to emotionally demanding interpersonal interactions, such as confrontation with death and illness, violence, and victims of crime or accidents. Based on the self-leadership theory, we assume that a self-leadership training can improve this so called "detached concern". In this study, we investigated the effectiveness of a training including six mental skills. We conducted a field experiment with a sample of 223 staff professionals working for the Dutch police who were either assigned to a training group or a wait-list control group. Our findings show that the training had a direct effect on the level of detached concern. In line with plasticity theory we found that the intervention was especially effective for participants with low to medium initial levels of pre-training self-efficacy. We conclude that a self-leadership training may increase the level of detached concern, in particular when offered to employees who lack confidence in their own abilities.

Keywords: Professional training, training effectiveness, professional distance, detached concern, self-efficacy

Authors: Josef Guggemos (1); Judith Spirgi (1); Sabine Seufert (1); Christoph Meier (1)

Institution: (1) University of St.Gallen, Switzerland

Contacting author: judith.spirgi@unisg.ch

Title: Augmentation Strategies in Human Resource Development – Conceptualization and Driver Analysis

Abstract:

In the context of digital transformation, a key question is how humans can effectively collaborate with smart machines (augmentation). Davenport and Kirby (2016) presented a framework comprising five strategies for dealing with smart machines in a profession. We adapted these five generic strategies to the context of human resource development (HRD) by means of three expert workshops. This results in definitions, anchor examples, and self-assessment questions for HRD. Human resource developers and knowledge workers in general may draw on our work to find a way for dealing with smart machines in their domain. In a subsequent quantitative phase, we utilized a sample of 160 human resource developers in order to investigate drivers for the extent to which they follow the five strategies. Attitudes toward digital transformation and an orientation towards long term economic goals emerged as important drivers. Surprisingly, (self-reported) technology-related knowledge and skills do not influence the extent to which the strategies are pursued. Most often, the human resource developers in our sample follow a step aside strategy, i.e., they focus on support and advice for employees on their development paths.

Keywords: Digital Transformation, Augmentation, augmentation strategies, Human Resource Development, workplace learning

Authors: Katrien Cuyvers (1,2); Catharina Van Oostveen (2); Veerle Struben (2); Maaike D. Endedijk (3)

Institution: (1) University of Antwerp (Belgium), (2) Spaarne Gasthuis (The Netherlands), (3) University of Twente (The Netherlands)

Contacting author: katrien.cuyvers@uantwerpen.be

Title: Nurse, which self-regulated professional learning strategies are engaged in in your hospital?

Abstract:

Notwithstanding a growing interest in self-regulation of professional learning- for which we use the acronym "SRpL"- empirical research is still scarce. If studied, offline cross-sectional self-report techniques are used to measure SRpL retrospectively. A case study design was used, including 28 nurses from 6 different disciplines, their head nurses, and 11 learning counselors from the learning academy of the same hospital. Informed consent was obtained. A multi-method approach was applied. Observations offer evidence on overt SRpL-strategies of the nurses. Consecutively, observable behaviors were used as cues for immediate in-loco stimulated recall interviews, asking about metacognitive strategies and the content of thoughts regarding a situation at hand. Semi-structured interviews, guided by an interview protocol, were used to recall the use of SRpL-strategies of nurses by the head nurses and learning counselors. All fieldnotes and audiotaped interviews were transcribed verbally. The transcripts were analyzed with Nvivo 12 applying content analysis. Results show that nurses rather occasionally engage in SRpL-strategies to learn during job performance. Also, both head nurses and learning counselors indicate this occasional engagement. Offering patient-care comes to the fore in the indicated goals. However, overt and covert SRpL-strategies are found to originate in learning-goals now and then and initiate a learning process. However, strategies that advance and evaluate a potential learning process are more difficult to make explicit and extract from the data. The study forwards a situated methodological perspective and contributes to the understanding of SRpL in everyday practice of nurses.

Keywords: Self-regulated learning, self-regulated professional learning strategies, nurses, case study, multi-methods

Authors: Laura E. Creon (1); Carsten C. Schermuly (1)

Institution: (1) SRH Berlin University of Applied Sciences, Germany

Contacting author: laura.creon@srh.de

Title: A new pathway to training transfer: Psychologically empowered training participants

Abstract:

Traditional formal training might not be suitable anymore to support employee learning in working environments of constant change. Often, what is learned in formal training is not applied in the workplace. One reason for this low training transfer might be that formal training is not learner-centered enough. We propose training participants' psychological empowerment as a more learner-centered approach to formal training. Based on the theoretical frameworks of active learning and andragogy, we expect psychological empowerment to mediate the positive relationship between transformational trainer behavior and training transfer. We conducted a two-wave study in training sessions on different topics (e.g., communication, leadership). A total of 381 training participants in 62 training groups participated in the study. Multilevel path analysis supported our hypotheses: Training participants' psychological empowerment mediated the positive relationship between transformational trainer behavior and training transfer two months later. These results provide human resource development practitioners and trainers with a way to adapt formal training to the challenges of a constantly changing working environment. Furthermore, they add to the theoretical discourse on learner-centered training and the role of the trainer for training transfer.

Keywords: Empowerment, training transfer, transformational trainers

Authors: Laure Kloetzer (1); Hélène Cristofari (1)

Institution: (1) University of Neuchâtel, Institute of Psychology and Education, Switzerland

Contacting author: laure.kloetzer@unine.ch

Title: Learning in robotic surgery: video-analysis through cross self-confrontations in a Swiss hospital

Abstract:

In this paper, we report on a 18 months project on interprofessional learning in the field of robotic surgery in a Swiss public hospital. Robotisation of the operating room has transformed the practice and organization of surgical work at the macro (hospital and inter-hospital organization), meso (team and interdepartmental work) and micro (surgeon and staff) level, with significant impact on interprofessional collaboration. These transformations raise new challenges for the training of surgeons, nurses and technicians. This research project aims at documenting one specific operation from the teaching and learning perspective, in order to support the collective reflection of the teams on how to improve training in robotic surgery for surgeons, nurses and technicians. The methodology is based on cross self-confrontations: it combines observations in the operating room, interviews of surgeons, nurses and technicians, group meetings, and video-analysis of operations. Volunteer surgeons, nurses and technicians are invited to comment selected video recordings in self-confrontations interviews. The research documents micro teaching-learning events during the operating process. It shows that teaching can be an interprofessional process (surgeons teaching nurses, but also nurses teaching surgeons, for example) and the limits of teaching and learning for professionals in the operating room.

Keywords: Robotic surgery; professional learning; developmental methodology; interprofessional collaboration; Clinic of Activity

Authors: Laurent Filliettaz (1)

Institution: (1) University of Geneva, Switzerland

Contacting author: laurent.filliettaz@unige.ch

Title: Learning to work through complex interactional participatory configurations

Abstract:

The talk will examine the sorts of interactional competences and institutional demands required from students as they engage in complex forms of participation combining production and training purposes during internships in work settings. Referring to the empirical field of medical radiology training, we will focus on a series of empirical cases, recorded through video data and analysed in a conversation analytic perspective, in which mentors make the decision to intervene, and therefore to guide or shape students' actions as they interact with patients in radiology procedures. Such interventions do not interrupt the student's activity and lead to the emergence of two distinct but not impermeable interactional spaces. This complex participation framework, known as "schisming", contributes to overcome practical problems within multiparty settings. Our study will show how schisming constitutes a particular sequential phenomenon where participants re-organize the interaction and co-construct a social and cognitive interactional space, thus enabling a shared understanding of the specific training context.

Keywords: Interaction, multimodality, schisming, participation, internship

Authors: Lieke Ceelen (1,2); Anne Khaled (2); Loek Nieuwenhuis (1); Elly de Bruijn (1,2)

Institution: (1) Open University of the Netherlands, (2) University of Applied Sciences Utrecht

Contacting author: lieke.ceelen@hu.nl

Title: Supporting workplace learning of novices – A systematic literature review

Abstract:

The systematic literature review that will be presented provides an overview of pedagogic practices, enacted in vocational communities, to support novices' workplace learning. In the literature search, three sets of relevant search terms were defined, including synonyms and related definitions of: supervisors, pedagogic practices, and workplace learning. Of the 50 included studies, fragments of results sections that provided a specific and situational description of pedagogic practice at the workplace, were processed qualitatively. Findings represent a specific overview of fourteen clusters of pedagogic practice, including both cognitions and actual behavior of vocational communities supporting novices' learning at the workplace. We illustrate how three perspectives on pedagogic practice at the workplace could be used to interpret our findings: 1) demonstrating vocational practice, 2) entrusting vocational practice and 3) stimulating vocational participation.

Keywords: Workplacelearning, supervisors, educators, pedagogics, vocations

Authors: Lori Caudle (1); Cathy Grist (2); Myra Watson (3)

Institution: (1) The University of Tennessee, US , (2) Western Carolina University, US , (3) Western Carolina University, US

Contacting author: lcaudle@utk.edu

Title: How Semi-Structured Peer Feedback Protocols Inform Preservice Teachers' Project-based Learning Pedagogies

Abstract:

Peer critiques have been proven to be an effective way to promote learning among preservice teachers. These types of peer feedback processes vary greatly in structure and implementation. The aim of this qualitative study was to investigate (1) the content of feedback preservice teachers provided one another within a semi-structured peer critique process to enhance project-based learning (PBL) pedagogies with young children, and (2) alignment between suggestions and PBL pedagogies ultimately used by the preservice teachers during the last two phases of their project work. Twenty-one early childhood preservice teachers participated in this study. They were enrolled in a math/science early childhood teacher education course. Participants were asked to provide peers with feedback about what they liked in their peers' work, and suggestions for next steps. Data sources included written peer feedback suggestions and PBL documentation, which contained narratives, photographs, video clips, and/or children's work samples. Data were analyzed using open-coding and constant comparison to determine the content of the feedback and whether participants used suggestions in their project work with young children. Results revealed most suggestions related to language/literacy, science, and sensory/creative arts pedagogies. Also, it was found that participants implemented one third of their peers' recommendations. Future work should examine preservice teachers' decision-making regarding the use of peer feedback, and how the feedback aligns to course objectives.

Keywords: preservice teacher education, peer critiques, project-based learning, early childhood

Authors: Margje van de Wiel (1); Fleurie Nievelstein (1); Simon Beausaert (1); Kathleen Schlusmans (2)

Institution: (1) Maastricht University, the Netherlands, (2) Open University, the Netherlands

Contacting author: m.vandewiel@maastrichtuniversity.nl

Title: Self-regulation and organizational support in university teachers' professional learning

Abstract:

To ensure high quality education, teachers need to learn from their experiences and be supported in their continuous development. At university, where staff besides teaching is highly involved in research, only few studies have been done. Based on theories of deliberate practice and self-regulated learning, the present study examined the learning activities university teachers engaged in to improve their practice and how they felt supported in doing so. Semi-structured interviews were conducted with 49 university teachers from two institutions. The results showed that most participants aimed to foster student learning and self-regulated their performance rather than their learning. They monitored their teaching by seeking for feedback and used this information, student evaluations and peer discussions to reflect on their practice. Reflection usually occurred as an automatic, ongoing process while performing teaching tasks in order to improve their course or skills. They did not plan their learning, although most wanted to develop as teachers and all kept up to date on their topic. They felt supported by the organization through workshops, discussion meetings, collaboration and a positive learning climate, but they experienced time constraints and many said to appreciate more developmental guidance and recognition for teaching. Universities should build upon self-regulatory practices by creating learning opportunities embedded within work procedures and guided by a coach or mentor. Much can be gained from organizing learning and support by collaboration, reflection and optimizing transfer to the workplace through meaningful learning on and for the job in courses and workshops.

Keywords: University teaching, professional learning, self-regulated learning, organizational support, interviews

Authors: Saeid Safaei Movahhed (1)

Institution: (1) National Iranian Oil Company (NIOC)

Contacting author: s_s_movahed@yahoo.com

Title: Conceptualizing workplace learning curriculum: a rationale for practitioners and academicians

Abstract:

Although "workplace curriculum" emerged as an area of inquiry roughly four decades ago, but it did not receive due attention by academics and practitioners. This is while workplace has been recognized vastly as a fertile ground for authentic vocational learning and development. Hence, this study aims at providing a rationale for both developing and understanding workplace curriculum. Accordingly, the related literature was scrutinized meticulously and workplace learning scholars were interviewed as well to acquire enough rich data for better describing the concept. Based on the data, workplace curriculum may be best interpreted a five-dimensional phenomenon as follow:

- Occupational: what to learn?
- Pedagogical: how to learn?
- Social: who to learn from?
- Psychological: why to learn?
- Judgmental: how to assess?

The rationale may help academicians for understanding and practitioners for developing workplace curriculum.

Keywords: workplace learning, workplace curriculum, workplace

Authors: Sebastian Anselmann (1); Uwe Faßhauer (1)

Institution: (1) University of Education Schwäbisch Gmünd, Germany

Contacting author: sebastian.anselmann@ph-gmuend.de

Title: Barriers on Learning: What hinders professional trainers and training managers to learn at and for work?

Abstract:

The aim of this study is to identify learning barriers at work for professional trainers and training managers. The research question is: What barriers do professional trainer and training mangers describe for their engagement in learning activities at work? We focus on barriers in learning at the workplace that hinders the initiation or interrupt successful learning, delay the proceedings, or end the learning activities much earlier than intended. Barriers can be internal, external and with regard to the organisational fit and therefore refer to an individual, team and organisational level (Shuck, 2019). Professional trainers (N=16) and training managers (N=10) were questioned in an interview study about their professional qualifications, characteristics of their workplace, internal, external barriers or learning, fitting problems and strategies to cope with. We used the Critical Incident Technique and asked participants to describe a concrete situation where they suffered barriers for learning. Answers were recorded, transcribed and analysed with qualitative content analysis. The trainers described a broad range of situations (CI) where they suffered barriers for learning at their workplace. Most could be summarized in the category of ´organizational fit`. Fewest could be summarized to the category ´individual barriers'. Regarding the description of internal and external learning barriers and fitting problems all participants could describe more than one barrier. Most of them described external learning barriers for example vague requirements by supervisor, or disruption by others. Our findings indicate the massive impact of different barriers occurring on daily learning at trainers and training managers work.

Keywords: Barriers in learning, workplace learning, qualitative research

Authors: Stefanie Zutavern (1); Juergen Seifried (1); Sophia Gentner (1)

Institution: (1) University of Mannheim, Germany

Contacting author: zutavern@bwl.uni-mannheim.de

Title: Learning The Ropes - Analyzing The Organizational Onboarding Process

Abstract:

Joining a new employer can bring about many changes. In order to enable new employees' integration into a new work environment, it is crucial to impart company-specific knowledge, new skills as well as cultural and social aspects. This can help newcomers to attach meaning to new experiences, modify their actions, and adapt their expectations about upcoming situations in the new context. Hence, by well designing learning processes of the onboarding phase, individual socialization and professional development can be promoted. In guideline-based interviews, IT professionals will be asked how they perceive onboarding practices, what entry barriers they fear, and to what extent onboarding can contribute to employees' career development. First results of the case study show that new employees—according to self-reports—only perceive a small number of practices that are planned by the company. Moreover, the practices are not consistently assessed as beneficial. Rather, barriers are mentioned which none of the implemented practices are tailored to overcome.

Keywords: Onboarding, Entry Barrier, Cognitive Sense Making, Interview Study, Self-report

Authors: Tamara Vanessa Leiß (1); Andreas Rausch (1)

Institution: (1) University of Mannheim, Germany

Contacting author: leiss@bwl.uni-mannheim.de

Title: Personality, emotions and situational characteristics in learning from social interactions at work

Abstract:

Learning in the workplace is a social process and social interactions with others are an important source of learning. However, only a few studies investigated predictors and characteristics of learning from social interactions at work. To the knowledge of the authors there is no study that explained learning from social interaction at work by characteristics of the social interaction, state emotions during these interactions and personality traits. The present paper addresses this research gap by means of a secondary analysis of hierarchically structured data that was collected in a diary study with trainees. The final sample comprises 43 German trainees in various apprenticeship programmes. The participants completed questionnaires on personality traits and recorded social interactions at work in a semi-standardised diary form over a period of ten workdays. In total, quantitative data of 1.328 social interactions were analysed by means of multilevel analysis since the diary data is nested in persons. The analysis revealed the baseline level of instrumentality of social interactions, the baseline emotional experiences of feeling bored and of feeling motivated as well as the interaction features instrumentality, questions asked and an interruption of the social interaction as positive predictors, while trainees' speech proportion during the interaction was a negative predictor. Perceived instrumentality, the baseline level of perceived instrumentality and the amount of questions asked have the strongest influence. Personality traits had no significant influence. Some further influences were surprising and will be discussed along with the limitations of the study.

Keywords: workplace learning, social interaction, emotion, personality, diary study

POSTER SESSIONS

Authors: Agnes Cichy (1); Hans Gruber (1)

Institution: (1) University of Regensburg, Germany

Contacting author: agnes.cichy@ur.de

Title: Structural differences in scientific collaboration networks in two scientific organisations

Abstract:

Scientific organisations provide a platform for collaboration networks through which researchers with common goals and interests can work together to create new scientific knowledge. Only few studies analysed and compared community structures and patterns of scientific collaboration in different scientific organisations yet. The aim of this study is to examine whether there are differences in the structure of collaboration networks of two scientific organisations regarding the individual level and the network level. This study refers to the findings of a previous study on experts in science in the scientific organisation "Special Interest Group 14" (SIG 14) of the European Association of Research on Learning and Instruction (EARLI). It continues the work by analysing and comparing the structure of collaboration networks within the SIG 14 and the SIG 27 at two levels by secondary data analysis and Social Network Analysis (SNA). The participants of this study are individuals, who were part of symposia sessions at the SIG 14 conference and the SIG 27 conference in the year 2018. Each symposia session provides two kinds of collaboration networks: network a) joint session and network b) joint presentation. First preliminary secondary data results include descriptive statistics for the collaboration networks "joint session" of the SIG 14 and the SIG 27 on the individual level. The study will be conducted in spring 2020, further results will be presented at this conference.

Keywords: Network structure, scientific output, scientific organisations, collaboration networks, social network analysis

Authors: Andreas Rausch (1); Jürgen Seifried (1); Viola Deutscher (1); Esther Winther (2); Sabrina Ludwig (1)

Institution: (1) University of Mannheim, Germany, (2) University of Duisburg-Essen, Germany

Contacting author: rausch@uni-mannheim.de

Title: Fostering learning in a computer-based office simulation by Problem-Solving Analytics (PSA)

Abstract:

To prepare knowledge workers for domain-specific problem solving in back office work, we develop a computer-based office simulation that provides the typical software tools such as a spreadsheet software, an enterprise resource planning (ERP) software and so forth. Learners face authentic scenarios that have to be solved in this office simulation without further structuring of the problem space. Based on the resulting log files (i.e. mouse clicks and keystrokes), individual problem-solving processes are analysed to identify general and domain-specific strategies and errors (problem-solving analytics, PSA). These PSA indicators of problem solving trigger real-time feedback and prompts to foster learning. Hence, our approach can be classified as intelligent tutoring system in a scenario-based open-enden e-learning environment. The PSA indicators will be validated by means of think-aloud studies and the effectiveness of feedback and prompts will be investigated in experimental studies. At this early stage of a three-year research project (funded by the German Federal Ministry of Education and Research), we will outline and discuss the PSA framework, its theoretical foundations and limitations.

Keywords: computer-based learning, simulation-based learning, problem solving, learning analytics, log file analysis

Authors: Caroline Brandt (1); Josefine Finke (1); Joelle-Marie Krautz (1); Christian Harteis (1)

Institution: (1) Paderborn University Germany

Contacting author: christian.harteis@upb.de

Title: Professional development of adult educators in the era of economic competition

Abstract:

This interview study investigates how pedagogical staff in (German) catholic educational institutions experiences the influence of economic imperatives on their daily work and their professional identity. Their institutions changed the funding system from fiscal, cameralistic funding towards business cost accounting during the last years. As consequence, economic imperatives (i.e. competition, cost controlling) were introduced in educational institutions that had developed stable course programs and working practices so far.

14 professionals with educational or theological background of 5 different institutions participated semi-structured interviews (50-90mins). Qualitative and quantitative content analyses were conducted applying deductive as well as inductive categories. The findings reveal that the most subjects accept economic standards in order to successfully maintain providing their course offers. However, only a minority of subjects integrated economic standards into their professional identity. The majority of subjects experiences the impact of economic imperatives as disruption of their educational role.

Keywords: Professional development; identity; adult education; economy; competition

Authors: Dieter Isler (1); Claudia Hefti (1); Katharina Kirchhofer (1); Claudia Neugebauer (2)

Institution: (1) PHTG Thurgau University of Teacher Education, Switzerland, (2) PHZH Zurich University of Teacher Education, Switzerland

Contacting author: dieter.isler@mac.com

Title: Improving the quality of teachers' scaffolding in classroom interaction trough professional development

Abstract:

Challenging communicative tasks such as reporting real life experiences, inventing stories, and explaining knowledge are essential in classroom communication and crucial for academic success. However, young children's familiarity with these oral texts varies widely depending on the linguistic and educational practices of their families. Kindergarten classrooms can provide opportunities for all children to successfully acquire oral text abilities. The interactional support provided by teachers can be improved by professional development, and progress in teacher support positively affects the children's language acquisition. These promising results still have to be confirmed for children's higher order text abilities, though.

The ongoing intervention study «Promoting oral texts in kindergarten classrooms» aims at supporting teachers to purposefully and effectively promote the production of oral texts in everyday kindergarten communication. In a pre-post-follow-up-design with intervention and control group, the quality of the teachers' interactional support and the abilities of the children to produce oral texts are measured at the beginning of the first (t_0) and the second (t_1) as well as at the end of the second (t_2) year of kindergarten. The teachers of the intervention group attend a nine months professional development program consisting of online-learning units, individual video-based coaching and small group coursework.

The study is currently being carried out, data collection at t_0 has been completed, and data are now being rated. In our poster, we will focus on the intervention design and the experiences we are currently collecting when working with the 33 teachers of the intervention group.

Keywords: Kindergarten, classroom interaction, scaffolding, professional development, intervention study

Authors: Eveline Wuttke (1); Patricia Köpfer (1); Katharina Bushyla (1)

Institution: (1) Goethe-Universität Frankfurt, Germany

Contacting author: bushyla@em.uni-frankfurt.de

Title: Conception of an intervention study with teachers for the promotion of handling student errors

Abstract:

Teachers need professional error competence to support students' learning processes in error situations. Professional error competence includes domain specific knowledge about student errors, strategies for handing a student errors and beliefs about the benefits of learning from errors. Studies in accounting education (bookkeeping) show a lack of this competence for teachers (Seifried & Wuttke, 2017; Mindnich, Wuttke & Seifried, 2008; Köpfer, Wuttke & Seifried, in prep.). Furthermore, teacher education does not sufficiently promote the handling of student errors (Wuttke & Seifried, 2017). The major aim of this intervention study was therefore to develop and evaluate teacher training to promote teachers' professional error competence.

Keywords: Teacher training, student errors, professional error competence, accounting education, video analysis

Authors: Heike Liepelt (1); Josef Strasser (1)

Institution: (1) University of Koblenz-Landau, Centre for Educational Research, Germany

Contacting author: liepelt@zepf.uni-landau.de

Title: Teachers' professional learning regarding parent counseling

Abstract:

Counseling conversations are an integral part of teachers' everyday work. Nevertheless, German teacher education barely addresses this professional task so that most teachers do not feel prepared for it. This leads to the question how teachers become able to deal with counseling conversations without being formally trained for it. Although there is a certain number of research projects on specific competence development programs for counseling in schools, no attention has been paid so far to teachers' professional and mainly informal learning in this field.The aim of this project is to contribute to closing this research gap with a qualitative approach. In a preliminary problem-centered interview study with teachers from four different school types (N = 15), experience from learning by doing and learning from colleagues appeared to be what helped teachers most in dealing with counseling conversations. A more in-depth study using episodic interviews, group discussions and video vignettes shall then allow further exploration of the professional learning activities of teachers in terms of parent counseling and their influencing factors.

Keywords: expertise development – parent counseling – professional learning – teacher education

Authors: Ianina Scheuch (1) Stephanie Duchek (1)

Institution: (1) TU Dresden, Germany

Contacting author: Ianina.Scheuch@tu-dresden.de

Title: A value or a threat? The relationship between diversity training and development of resilience capabilities

Abstract:

Teams in organizations are challenged by complex tasks, changing conditions, and uncertainty. To meet these challenges and maintain high performance, teams need to develop resilience capabilities. This paper analyzes the relationship between diversity training and development of team resilience capabilities. For this purpose, we conducted a qualitative study with an experimental character and compared teams with and without diversity training. We formed eight student teams that had to work on the same case study but differed in terms of their experimental conditions (three heterogeneous teams with training and three control teams). To compare these teams, we recorded their teamwork on video and used questionnaires before and after the case-study work.The results of our video analysis show how diversity training can foster team inclusion processes and the development of team resilience-related capabilities. Based on our research findings, we deduce recommendations for further research and managerial practice.

Keywords: Team resilience; resilience capabilities; team diversity; diversity training

Authors: Irene van der Marel (1)

Institution: (1) Open Universiteit,Hogeschool Utrecht, The Netherlands

Contacting author: irenevandermarel@yahoo.com

Title: Exploring teaching strategies and knowledge of graduation project supervisors

Abstract:

Business students in the final year of their undergraduate professional studies in higher education often do a graduation project with which they develop and demonstrate their professional competence. Research competence is a vital dimension of professional competence in order for students to become professionals in a fast-changing knowledge society. Supervision of such graduation projects is a challenging task, among others because applying research competence as part of solving a professional problem is relatively new in contemporary curricula. A prior systematic review, using a conceptual framework consisting of teaching strategies and the knowledge areas of pedagogical knowledge, professional knowledge, disciplinary knowledge and research competence provided insight into the roles of generic pedagogical knowledge and research competence. However, there is a lack of knowledge about the role of content, namely disciplinary and professional knowledge, in graduation project supervision. This study adds to that knowledge through exploring the integration of the different knowledge areas into teaching strategies. Preliminary results show four critical phases in the supervision, each with its specific teaching strategies and embedded knowledge. The phases are providing feedback on the action plan, visiting the company at which the student carries out the project, supporting the analysis phase and providing feedback on the concept report.

Keywords: Graduation project supervision; knowledge; teaching strategies; professional studies; higher education

Authors: Jana Foerster-Kuschel (1)

Institution: (1) TU Dresden Germany

Contacting author: jana.foerster-kuschel@tu-dresden.de

Title: Diversity of Apprentices as a Topic in Textbooks for In-company Trainers in the German Dual System of VET

Abstract:

Managers, as well as in-company trainers, are faced with an increasing diversity of employees, respectively apprentices. Thus diversity competence as the ability to handle diversity can be seen as crucial competence of them (Quaiser-Pohl, 2013, p. 19). The presenting poster focus on in-company trainers. The term diversity is used in the following as synonym for heterogeneity, although there are some differences between both terms (Sliwka, 2010, p. 213). The term refers in the following to differences between apprentices regarding a multitude of attributes that have to be dealt with actively (Sliwka, 2010, p. 213).

Informal learning, e.g., reading professional literature in terms of textbooks, can be seen as one possibility to foster this diversity competence. A planned study aims to examine to what extent textbooks, that are commonly used to prepare in-company trainers for the so-called trainer aptitude test address contents that are relevant to foster diversity competence of in-company trainers. Concerning the increasing importance of diversity competence of in-company trainers, it is assumed that such contents are also addressed in these textbooks. With the help of qualitative content analysis, the following two research questions will be answered:

1. What differences between apprentices, as well as what possibilities to handle these differences are addressed?

2. In which quantity and quality are these both aspects addressed?

The poster will illustrate the study design and method in more detail and will present the findings answering the research questions mentioned above.

Keywords: Diversity, dual system, in-company trainers, textbook analysis

Authors: Jason Chen (1); M. Shane Tutwiler (2)

Institution: (1) William & Mary, USA, (2) University of Rhode Island, USA

Contacting author: jachen@email.wm.edu

Title: Motivational and Behavioral Patterns of Geoscientists Navigating Simulations About Diversity

Abstract:

Geoscience professors (n=29) engaged in mixed-reality simulations as part of their professional development regarding diversity and inclusion. We used k-means cluster analysis to group participants by pre-intervention self-reports of (1) self-efficacy to identify prejudice and to productively intervene; (2) collective efficacy for working together with one's department to create a more diverse and inclusive department; and (3) beliefs about the worthwhileness (i.e., cost value beliefs) of pursuing diversity initiatives. We found that a three-profile solution best represented the data. Individuals in profile 1 (n=6) reported relatively moderate self- and collective efficacy, but also reported that pursuing diversity initiatives was relatively costly for them personally (i.e., high cost value). Individuals in Profile 2 (n=9) reported the lowest self- and collective efficacy, but also considered diversity initiatives to be worth their efforts (i.e., low cost value).. Individuals in Profile 3 (n=12) reported the highest self- and collective efficacy and also considered diversity work to be worth their effort. After identifying these profiles of motivation we wanted to know whether these profiles predicted the choices they made within the simulations. To explore this question, we analyzed video data of participants navigating the simulations to explore if there were behavioral patterns that emerged from individuals in the different motivational profiles. We are in the process of analyzing video recordings of participants engaging in the simulations and in the full paper will report on what, if any, patterns emerge regarding the choices that individuals from the three profiles made in their simulations.

Keywords: Diversity; Leadership; STEM; Simulations; Cluster Analysis

Authors: Johannes Steinrücke (1); Bernard P. Veldkamp (1); Ton de Jong (1)

Institution: (1) University of Twente, the Netherlands

Contacting author: j.steinrucke@utwente.nl

Title: The Effect of Self-Reflection on Information Literacy Performance in a Digital Serious Game

Abstract:

Information literacy is a skill consisting of multiple facets. Being information literate is particularly beneficial in decision making processes in crisis management, where decision makers have to work with limited time and data about the situation. In order to train decision makers on information literacy, digital serious games offer the advantage of being an accessible training method, which the trainees can use on more frequent basis than traditional, analog training methods. Given that self-reflection is already part of the post-training discussion and reflection sessions in traditional crisis management training and that it has proven to be a beneficial instructional intervention in digital serious gaming environments, self-reflection moments in a digital serious game will be used in this study to trigger the trainees to rethink and thereby adjust their in-game training behavior. Consequently, this study investigates the effect of a self-reflection moment in a digital serious game for crisis management decision making training.

Keywords: Self-Reflection, Serious Games, Information Literacy, Crisis Management, Decision Making

Authors: Kitty Meijer (1,2), Liesbeth Baartman (1), Marjan Vermeulen (2), Elly de Bruijn (1,2)

Institution: (1) HU University of Applied Sciences Utrecht, Netherlands, (2) Open University of the Netherlands

Contacting author: kitty.meijer@hu.nl

Title: Higher professional education teachers' conceptions of sustainable assessment literacy

Abstract:

The commonly used definition and operationalization of assessment literacy as measurable static knowledge of an educator does not cohere with current theories about competence and knowledge of professionals, including teachers. Therefore, we propose to redefine assessment literacy as an authentic dynamic context-dependent social practice: sustainable assessment literacy (SAL). This qualitative focus group interview study unravels the conceptions of teachers in higher professional education in the Netherlands to supplement the definition of assessment literacy and to align the definition with their daily social experiences. The focus groups will be composed of teachers with different roles in higher education such as assessor, member of examination board, or curriculum designer in order to reflect the different assessment practices in higher professional education and enable discussions about SAL. Analysis will lead to a broadened concept of assessment literacy, incorporating teachers' opinions. Interviews will take place in March-May 2020. Empirical results will be presented at the conference.

Keywords: Assessment literacy, higher professional education, Focus group interviews

Authors: Paulina Robalino Guerra (1,3); Mariel Musso (2,3)

Institution: (1) Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina, (2) Centro Interdisciplinario de Investigaciones en Psicología Matemática y Experimental "Dr. HORACIO J. A. RIMOLDI" (CIIPME - CONICET), Argentina, (3) Universidad Argentina de la Empresa (UADE), Argentina

Contacting author: paulina.e.robalino@gmail.com

Title: Can teacher's cognitive ability predict job performance? A preliminary study.

Abstract:

Matching candidates with particular jobs is one of the main purposes in the workplace. Previous research has shown that cognitive skills tests and bio data are the strongest predictors of job performance. The aim was to analyze how cognitive level predict job performance. We use a non-probabilistic sample of 79 elementary school teachers, ages between 21 and 58 years old (M= 33.44; SD= 8.38; female= 82%). We use a socio-demographic questionnaire; attentional network test (ANT), working memory capacity test (AOSPAN) and a job performance scale. The results show that attention and working memory reaction time are related with job performance, but just Working memory reaction time predict 5% of task performance. Results are consistent with previous studies. Limitations and new hypotheses will be discussed.

Keywords: Cognitive capacity, Working Memory; Attention; Job Performance; Teachers

Authors: Rieke van Bemmel (1,2); Ilya Zitter (2); Elly De Bruijn (1,2)

Institution: (1) Open University of the Netherlands, The Netherlands, (2) Utrecht University of Applied Sciences, The Netherlands

Contacting author: Rieke.vanbemmel@hu.nl

Title: Designing a responsive curriculum for teacher education in higher vocational education

Abstract:

The aim of the overall PhD-research of which this contribution is part, is to enhance understanding of designing responsive curricula for teacher education. We consider a curriculum as responsive when it is adaptive to a variety of contexts in occupational practice, adjustable to changing skill needs and takes individual differences and needs into account. The overall research question is: How to define and understand a responsive teacher education curriculum? For this contribution the perspective of students is considered and the following, more specific question will be addressed: What do students expect from a responsive teacher education curriculum? In this PhD research a model of design based research in education is used, including three design steps: 1) analysis/exploration; 2) design/construction; 3) evaluation/reflection. The first part of this PhD-research project focusses on the significance of a responsive curriculum in the context of teacher education. During the first design step, we start with analysis and exploration of the expectations of students by conducting observations and a series of interviews. The data will be analyzed qualitatively and synthesized to guide us to a better understanding of the concept of a responsive curriculum in the context of teacher education. A responsive curriculum is a promising means to bridge the gap between learning in school and learning at the workplace and train futureproof teachers.

Keywords: curriculum, design, teacher education, responsive

Authors: Tobias Kärner (1); Jana Höning (2)

Institution: (1) University of Konstanz, Germany, (2) University of Konstanz, Germany

Contacting author: tobias.kaerner@uni-konstanz.de

Title: Teachers' experienced classroom demands and autonomic stress reactions: Results of a pilot study

Abstract:

In order to examine relationships between teachers\' experienced classroom demands and autonomic stress reactions, we report results of a pilot study. Based on an integrative literature review we first identify and describe the following classroom demands: (1) missing rest periods, (2) time pressure, (3) pressure to get through the subject matter, (4) vocal strain, (5) uncertainness concerning subject matter, (6) uncertainness concerning didactical decisions, (7) achievement-related diversity in class, (8) lack of social appreciation, (9) disquietude and noise in class, (10) classroom disturbances, (11) behavioural problems of students, (12) insufficient skills and concentration of students, and (13) insufficient motivation and involvement of students. These identified categories of classroom demands are the basis for the empirical item identification and selection (study 1). The identified single-items were used in a single-case short-term longitudinal study where we examine relationships between classroom demands and autonomic stress reactions via first-order vector autoregressive VAR(1) modelling (study 2). The results are discussed regarding teaching and research implications.

Keywords: Teacher stress; Classroom demands; Heart rate and heart-rate variability; Experience Sampling Study; First-order vector autoregressive VAR(1) model

Authors: Tuire Palonen (1)

Institution: (1) Faculty of Education, University of Turku, Finland

Contacting author: tuire.palonen@utu.fi

Title: Teachers' professional networks. A comparative study between three countries

Abstract:

Objectives. The study examines how the dynamics and relations between teachers help them when facing complex societal challenges, such as immigration and multi-cultural classes, stimulate cross-cultural socialization, and instill a sense of belonging in their school communities. The aim is to create opportunities for professional learning by engaging participants in the research to co-produce, use and disseminate knowledge exchange tools and resources for educators. The participants of the study come from three countries, two schools from each country will be invited for the study.

Research strategy. We will conduct a mixed-method Social Network Analysis (SNA) study of teachers' purposeful interactions with their colleagues and specialists on the field. Teachers' social networks, which include formal and informal interactions within and outside school communities, are particularly important as a source of local knowledge and social norms and SNA provides tools to make these visible.

Social Network Survey: We will administer social network surveys to our sample of 250 teachers, school staff, and school leaders. The survey will feature items that ask about the content and frequency of educators' interactions with their closest colleagues, as well as from whom respondents most frequently receive advice and/or resources. We focus on regular interactions based in stable relationships as respondents are expected to be more likely to accurately nominate those individuals with whom they interact regularly and frequently. A sociometric approach will be employed.

Keywords: Professional learning, Teachers, Social Network Analysis, Personal Networks, Intervention study

Authors: Verónica Valcarce de Veer (1); Paloma Valdivia Vizarreta (1)

Institution: (1) Universitat Autònoma de Barcelona, Spain

Contacting author: veronica.valcarce@e-campus.uab.cat

Title: Approaching the construction of feminist learning through the use of Twitter

Abstract:

The current socio-educational context is permeated by social networks, in which an abundant amount of information is generated and consumed on a global scale. People spend time reading, processing and sharing this information, while they interact with each other. These interactions generate communities, permanent or ephemeral, of informal learning. Facing this reality of ubiquitous learning, the complex relationships between formal, non-formal and informal learning; and the spaces or moments in which they are generated.

The feminist movement has taken part in this dynamic, creating discourses and spreading content through social networks such as Twitter. In this study, hashtags in Twitter are considered as the links to community learning, which not only simplify content searches and trend development, but also create broad and complex communities of shared learning.

This research analyses cyberfeminism communities on Twitter monitoring the actions that have taken the 10 most relevant Catalan and Spanish feminist accounts, assembling a map with the content of its different feminist hashtags, and finally, complementing and contrasting all these data with interviews with the managers of these accounts.

We believe that this is an innovative education research that presents the innovative interventions of feminists on Twitter in the development of learning. This study applies an interdisciplinary mixed methodology that uses the possibilities of Big Data, using the data mining technique on Twitter.

Keywords: Informal learning, cyberfeminism, Twitter, Big Data, data mining.

Authors: Alejandra Bosco Paniagua (1); Ian Blanes García; María Carmen De Toro; Cristina Fernández Córdoba; Maite López-Sánchez; Ernest López-Sirvent; Guillermo Navarro Arribas; Mercè Villanueva Gay

Institution: (1) Universitat Autònoma de Barceloba, Spain

Contacting author: alejandra.bosco@uab.cat

Title: Service-learning to promote programming and computational thinking in educational contexts

Abstract:

This action-research is developed in the context of the subject Learning and Knowledge Technologies (TAC) of the Pedagogy and Social Education degrees as an innovative teaching project. This project, financed by Office of Teaching Quality (Universitat Autònoma de Barcelona) is a service-learning proposal in which students learn at the same time they are serving the community: support for teachers at a public primary school to integrate ICT in the teaching and learning process. Specifically, it aims to support the integration of Scratch, a programming language for boys and girls, as a learning resource. Using the service-learning approach, the students of the TAC subject learn how to create digital educational applications that meet specific needs in a real educational context. Methodology of the subject is also based on project-based and collaborative learning.

During the project students are commissioned by the school to develop an application - with Scratch - that is linked to the curriculum objectives of the elementary education being worked on. Students carry out this task, developing the application in question, but also preparing the necessary teaching material to support their future implementation. The project is also established as an interdisciplinary collaboration between the Education faculty and School of Engineering, both from the UAB. The School of Engineering supports the training related to Scratch as a language programme. Two pilot tests have been carried out. After this current implementation as an action research we hope to transfer this kind of project to other subjects and similar contexts.

Keywords: action research, service-learning, Scratch, project-based learning, collaborative learning

Authors: Anna Álvarez (1); Carla Quesada-Pallarès (2); Lori Caudle (3); Cathy Grist (4)

Institution: (1) UVic-UCC Campus Manresa, Spain, (2) Universitat Autònoma de Barcelona, Spain, (3) The University of Tennessee, United States, (4) Western Carolina University, United States

Contacting author: carla.quesada@uab.cat

Title: Emotional Competencies of pre and in-service ECE teachers in Catalonia and the Southeastern US

Abstract:

Literature highlights the importance of early childhood education teachers' training on emotional competencies to improve the quality of education and care they provide young children. However, little is known about teachers' own social emotional competencies and how this impacts their practices. The aim of this study is to identify the emotional competencies of pre and in-service ECE teachers in Catalonia and the Southeastern US in order to identify training needs. To do this, we are administering a questionnaire, based on a model created and validated for us, to gather data from 80 pre and in-service teachers. Results will allow us to understand more about the competencies of teachers and ultimately identify cross-cultural training needs of early childhood teachers in various stages of development.

Keywords: Early Childhood Education, emotional competencies, quantitative research, teacher training

Authors: Antonio Vega-Martínez (1); José Reinaldo Martínez-Fernández (1)

Institution: (1) Autonomous University of Barcelona. Spain

Contacting author: antonio9vega@gmail.com

Title: Evolution of learning patterns, academic stress and performance in future professionals in education science.

Abstract:

One of the main objectives of the university is to generate professionals, but also to build critical, reflexive and autonomous people. Especially in careers related to education sciences, whose future professionals will assume responsibilities in education, training, development and even other people\'s health. Thus, the learning patterns acquired as a student, will be reproduced in his performances as a professional. In many cases, patterns with superficial conceptions, motivations and strategies that have managed to overcome, with or without stress, the high demands of the university. Consequently, the present research analyzes the learning processes based on the Theoretical Model of Learning Patterns (Vemunt, 1998) and the relationship they have with academic stress and performance, during the first two years of university studies. The sample consists of 194 Spanish students of education sciences who respond to the ILS in a reduced version of Martínez-Fernández and García-Orriols (2017) and other questionnaires on academic stress, reactions and coping. The instruments are applied in the second semester of the first course, when the student has already been working under the university methodology during the first semester. And the action is repeated in the second course. In addition to analyzing the relationship between the variables, plus their evolution, it is possible to reveal which professional profiles are launched into the labor world, their characteristics and, on the other hand, which ones have a tendency to academic failure.

Keywords: Learning Patterns, stress, performance, professionals

Authors: Bianca Steffen (1); Michael Goller (1); Nadine Bergen (1); Silvia Cristina Burkhardt (1); Christian Benedikt Flessner (1); Silvia Kremer (1)

Institution: (1) University of Paderborn

Contacting author: bianca.steffen@uni-paderborn.de

Title: Cooperation in Designated Workplace Learning Settings: A Social Network Study Among Student Nurses

Abstract:

Interaction and cooperation are important means for professional development because they allow novices to seek information and feedback. Unfortunately, within the German apprenticeship system future nurses have only limited chances to make use of the learning potentials of such social practices because of understaffing and ongoing time pressure. Due to these structural problems, many nursing schools introduced student-run hospital wards (SHWs) as designated learning arrangements that are argued to give rise to an increased need and potential for interaction and cooperation among the students. However, only little is known about whether SHWs match this theoretical assumption or how interaction and cooperation at SHWs are related to professional learning and development. This study attempts to fill this gap by using a mixed-methods social network analysis approach in answering (1) How and why do nursing students interact and cooperate with each other and other medical actors (e.g., physiotherapists, physicians)? and (2) How does their interaction and cooperation support their learning process – also in the face of disputes and conflicts? Ego-centric networks, qualitative interviews, and quantitative questionnaires were used to collect rich data on how the students interacted. Preliminary analyses show that students were seeking more often for information than feedback; ask other students for help based on their assumed expertise level; seek practical information more often from qualified nurses that usually work at the ward but attempt to get knowledge concerning scholastically practices from instructors. Besides answering the research question this contribution also aims to discuss the methodological challenges within this project.

Keywords: Student-run hospital wards, social network, mixed-method, workplace learning, nursing students

Authors: Carla Quesada-Pallarès (1); Sarah Marrs (2); Anna Ciraso-Calí (1,3)

Institution: (1) Universitat Autònoma de Barcelona, Spain; (2) Virginia Commonwealth University, US; (3) Universitat de Barcelona, Spain

Contacting author: marrssa@vcu.edu

Title: Analyzing the Perceived Research Competence of Doctoral Students: A Cross-Country Comparison

Abstract:

Upon completion of a Ph.D. program, individuals are believed to be not only experts in their field but competent in designing and conducting research. However, doctoral study alone may not be adequately preparing students for performing their role as an independent researcher.

Literature pointed out that there is a need to validate a tool for measuring perceived research competence of graduates of doctoral programs across a variety of disciplines. Thus, this study aims to examine the appropriateness of the Perceived Research Competence (PR-Comp) scale for measuring doctoral students' perceptions of research competence across a variety of disciplines, and internationally.

To achieve these goals, this research is designed as a cross-sectional study. Data will be gathered at the Virginia Commonwealth University (US) and Universitat Autònoma of Barcelona (Spain), on potentially all doctoral students enrolled in a PhD (N=5,309 and N2=4,832). The PR-Comp questionnaire will be administered, which is an adaptation of the R-Comp questionnaire (Böttcher & Thiel, 2018), with the same five dimensions: skills in reviewing the state of research; methodological skills; skills in reflecting on research findings; communication skills; and content knowledge.

Results of this study will allow us to explore what areas of the scientific thinking doctoral programs need to foster and what others must be tackled by other approaches.

Keywords: research competence, doctoral students, scientific thinking, phd programs, academic researchers

Authors: Ceren Su Abacioglu (1); Megan Watkins (2); Agneta Fischer (1); Monique Volman (1)

Institution: (1) University of Amsterdam, the Netherlands, (2) Western Sydney University, Australia

Contacting author: c.s.abacioglu@uva.nl

Title: Professional learning on multicultural education: What we can learn from the Australian context

Abstract:

Teachers continue to report feelings of inadequacy and a lack of professional confidence in effectively dealing with diversity in face of changing classroom demographics. Evidence for the effectiveness of professional learning on multicultural education to equip teachers with the necessary skills to navigate such diversity is rather narrow. We examined 3006 in-service primary and secondary public-school teachers in the New South Wales (Australia) – the largest state education system in the world – to investigate the effects of having had professional learning on teachers' beliefs around the effectiveness of multicultural strategies in fostering a culturally inclusive environment, on the importance of these strategies in providing equitable opportunities for students, and on their support for monocultural ideologies and practices (as opposed to multiculturalism). We focused on two distinct types of professional learning that teachers underwent either during preservice training, as postgraduate qualification, or while in-service: i) on multicultural education broadly and ii) on teaching English as a Second Language specifically. The results from our multilevel structural equation model showed that teachers who received professional learning had more positive attitudes and beliefs around multicultural ideologies and practices compared to teachers who did not undergo professional learning, and the most effective time to undergo professional learning is during in-service years. Importantly, the two types of professional learning seemed to have overlapped but distinct relationships to teachers attitudes and beliefs that may complement each other.

Keywords: professional learning; multicultural education; English as a second language; diversity; structural equation modeling

Authors: Dagmar Festner (1); Fabienne Jansen (1); Désirée Laubenstein (1); Katrin B. Klingsieck (1)

Institution: (1) University of Paderborn, Germany

Contacting author: dagmar.festner@upb.de

Title: Strengthening the repertoire of actions for challenging situations in inclusive classroom settings

Abstract:

The ability to connect theories learned at university to future teaching practice is a challenging task for many students for (special needs) education. Therefore, researchers suggest to strengthen the link between theory and practice in teacher education. Video-based feedback is a powerful tool to enhance perception of this link and to induce reflective thinking processes. The aims of the present study are (1) to design an authentic learning environment in which students can learn to cope with challenging situations in inclusive classroom settings, (2) to strengthen their repertoire of actions by role-play and theory-based reflection, and (3) to evaluate effects of the intervention on research-orientation and the experienced link between theory and practice.

In the master program of students for special needs education a longterm internship is implemented. While on this internship students are additionally enrolled in university courses. The present study takes place in one of these courses, in which the participants (N=15) develop and play challenging scenarios, focusing on different topics (f.e. ADHD). In every role-play two students slip into the role of the teacher and the other students take over the role of pupils or observers.

The students complete a questionnaire at the start and end of the course. Preliminary results of the first measurement show that students could solve half of the items on declarative knowledge in average. They also could see the link between theory and practice (M=3.93; SD=0.54; 5-point-scale). Data analysis after the second measurement will point out if the intervention has positive effects.

Keywords: special needs education, role-play, video, research-orientation, classroom management

Authors: Dieuwertje ten Berg (1); Maaike Endedijk (1); Marlon Nieuwenhuis (1); Ruth van Veelen (2)

Institution: (1) University of Twente, the Netherlands, (2) Utrecht University, the Netherlands

Contacting author: m.d.endedijk@utwente.nl

Title: Career exploration and choices of technical talent: a professional identity perspective

Abstract:

There is a strong shortage of highly educated STEM (Science, Technology, Maths, Engineering) talent in the technical labour market, caused by a \'gap\' in STEM students\' transition from technical study programs to the workplace. This project takes a professional identity approach to understand career exploration and choices among STEM students during their transition from study to work. When a person has a strong professional identity, they have a sense of membership and their profession is included into their self-concept. The main goal of this project is to gain insight in how professional identity development affects who will (not) opt for a career in STEM and who is (not) likely to stay in STEM. In this study, we measured the professional identity (strength and content) of 601 STEM-students from a university and a university of applied sciences and 445 technical employees, and among the students also their career exploration activities, intended career choices and expected fit to the technical sector. Latent Profile analysis resulted in a set of five professional identity profiles, namely the Team Player (24.5%), the All Rounder (24.6%), the Individualist (14.5%), the Analyst (25.6%) and the Innovator (10.8%). This shows that professional identity profiles of technical professionals are highly diverse, providing a more inclusive picture of this professional field. Further analyses will show how professional identity is related to career exploration and intended career choices.

Keywords: Professional identity, career choices, career exploration, study-work transition, technical sector

Authors: Gabriel Lemkow (1); Carla Quesada-Pallarès (1,2); Marta Llebaria (1); Dolors Vazquez (1); Ana Maria Forestello (1,2)

Institution: (1) UManresa-FUB, Spain, (2) Universitat Autònoma de Barcelona, Spain

Contacting author: gabriel_lemkow@yahoo.es

Title: Long-term impact analysis of the Science-on-Wheels proposal addressed to nurseries

Abstract:

"Science on Wheels" (FCT-16-11603) was a 2016 publicly FECYT funded project conducted by the GRENEA (Research Group in Education, Neurosciences, Experimentation and Learning) Research team, from UManresa-FUB University, designed to approach science to children in nurseries and kindergartens, through experimentation and free-choice proposals. Authors such as Harlen, Furman, Eshach & Fried, Osborne and Pedreira & Marquez, amongst others, claim that children are capable of Learning science at very early ages, through play and hands-on activities, and also claim that the role of the adults and of the children's peers amongst other things play a central role in their learning processes. Once the project ended, an impact analysis was conducted, through questionnaires to the educators, interviews and on-site visits to the nurseries to detect if the visits and activities promoted further changes in the nurseries, leading them to favor science activities. In general the results were positive regarding the educators' and children's interests. Currently a long-term impact analysis through interviews and on-site visits, has been conducted to see its long-standing effects after 2 years of the project. The results will allow making improvements to the science proposals for children and to the nurseries' assessment.

Keywords: Science, hands-on, experimentation, science proposals, free-choice

Authors: Geneviève Aubin-Houzelstein (1); Nathalie Girard (1); Véronique Broussolle (1); Michael Chelle (1); Laurence Fortun-Lamothe (1); Frédérick Garcia (1); Evelyne Lutton (1); Arielle Santé (2)

Institution: (1) INRAE, FRANCE, (2) ASCEO, FRANCE

Contacting author: nathalie.girard@inrae.fr

Title: Analyzing the learning challenges of PhD student-supervisor pairs to innovate in research training

Abstract:

First professional experience in research, the doctoral thesis is crucial in the training of future researchers. This apprenticeship is guided by experienced practitioners taking the role of supervisors. In the context of a changing profession, full of uncertainties and tensions, better understanding what is at stake in this peer learning, is a scientific challenge in the field of learning and professional development. However, most studies on research training focus either on students or on supervisors' learning, leaving their cross-learning processes under investigated.

Our objective is to analyse the learning challenges within the pair constituted by the PhD student and his-her supervisor(s), with the aim of designing an innovative training course favouring this double professionalization. To this end, we use our experience as trainers of more than 150 PhD students/supervisors pairs since 2013 in a multidisciplinary research institute. We analyse the goals, objects and conditions of the work situation of the student-supervisor(s) pair, thus characterizing its complexity and identifying the challenges and difficulties of their cross learning.

We then identify a set of paradoxical situations that both the PhD student and the supervisor have to deal with. Based on this analysis, we characterize different phases of the thesis, including the key transition of the end of the first year. On this basis, we explain the pedagogical principles of an action-based training, based on reflexivity and communication in the pair, aiming at supporting the professionalization of supervisors and PhD students.

Keywords: Research training; companionship; PhD thesis; supervision; work situation

Authors: Jennifer Göhringer (1); Alexandra Merkert (1); Josef Strasser (1)

Institution: (1) University of Koblenz - Landau; Germany

Contacting author: goehringer@uni-landau.de

Title: Interpersonal emotion regulation in parents-teacher talks: A professional challenge

Abstract:

Cooperating with parents is an important professional task for teachers, but they are mainly trained to teach and interact with students. Therefore, teachers are not trained in the same way for interactions with parents. In addition, research on parents-teacher talks shows, that these interactions can be highly emotional and challenging for teachers (Gartmeier, 2018; Balser, 1993). Extreme emotions of parents seem to require high self-regulation of teachers and the ability to understand and act on the parents' emotions.

The goal of this pilot study is to explore the role of emotions and interpersonal emotion regulation (Gross, 2015; Zaki, 2020) in parents-teacher talks to reach a better understanding of the professional challenges in these interactions. More knowledge about inter- and intrapersonal processes can enable future research into this field and could inspire professional training for teachers.

This exploratory study uses data from a 2019 qualitative interview study about teacher's general perspective on parents-teacher talks and parent counseling in Germany (N = 34, f = 22; Merkert & Strasser, 2019) to get an authentic representation about the challenges. Building on the research on intra- and interpersonal emotion regulation (Gross, 2015; Zaki, 2020) a qualitative content analysis was conducted.

Authors: Julia Hein (1); Oliver Dickhäuser (1); Raven Rinas (2); Martin Daumiller (2); Markus Dresel (2); Stefan Janke (1)

Institution: (1) University of Mannheim, Germany, (2) Augsburg University, Germany

Contacting author: julia.hein@uni-mannheim.de

Title: How do higher education instructors learn from student evaluations of teaching?

Abstract:

This study examines the learning process of higher education teachers regarding the informal learning situation of receiving student evaluations of teaching (SET). We look into how instructors process and use SET-results to improve their teaching in an online field study. According to models of self-regulated learning and achievement goal theory, we expected learning goals to facilitate learning behavior (e.g., devoting time to the learning process), and in turn, to enhance learning results and thereby, how instructors use and profit from SET-results. Based on these theories, we expected a positive association between learning goals and learning results mediated by learning behavior. In total, 442 higher education instructors employed in Germany and Austria reported their learning goals before they voluntarily planned an additional student evaluation of their teaching. While receiving their first evaluation results online, we measured the time they spent processing the students' feedback about their teaching (objective learning behavior). Afterwards, 99 instructors reported their intended learning behavior, how they intend to use the information provided through quantitative and qualitative self-report measures (self-reported learning behavior), and their anticipated long-term learning effects (self-reported learning result). Preliminary results indicated partial support of the proposed hypotheses, in that learning goals predicted the intention to act on SET-results (only quantitative measure) and the anticipated long-term learning effect. However, only weak support could be found for the mediating role of self-reported learning behavior, and no significant associations were found with the objective learning behavior.

Keywords: Learning goals, self-regulated learning, informal learning, student evaluations of teaching, higher education instructors

Authors: Larissa den Boer (1,2); Marijke Eurelings (1); Reinier Hoff (2); Marieke van der Schaaf (2)

Institution: (1) Spaarne Gasthuis Hospital, The Netherlands, (2) University Medical Center Utrecht, The Netherlands

Contacting author: l.denboer-10@umcutrecht.nl

Title: Interprofessional feedback dialogues in postgraduate medical education

Abstract:

When residents gain more autonomy in postgraduate medical education programs, the amount of daily feedback from clinical supervisors based upon direct observation will gradually decrease. Instead, they could get feedback from health professionals with whom residents collaborate for example at the clinic, at the operation room or the emergency unit. The current research aims to get insight in feedback goals, perceptions and impact of interprofessional feedback dialogues at the workplace. Twenty residents from a hospital in the Netherlands, as well as interprofessional feedback providers such as nurses will participate in feedback dialogues and subsequent surveys about feedback goals, perceptions and impact. The study yields insights in if and how interprofessional feedback (dialogues) can contribute to residents' learning and the conditions that should be taken into account when designing interprofessional feedback dialogues.

Keywords: Professional development, interprofessional feedback, feedback dialogue, postgraduate medical education, resident

Authors: Oddny Judith Solheim (0); Oddny Judith Solheim (1); Venke Furre Håland (2); Erin McTigue (3); Mari Rege (4)

Institution: (0) Norwegian Reading Centre, University of Stavanger, (1) Norwegian Reading Centre, University of Stavanger, Norway, (2) Department of Social Studies, University of Stavanger, Norway, (3) Norwegian Reading Centre, University of Stavanger, (4) UIS Busines

Contacting author: oddny.j.solheim@uis.no

Title: A Field Experiment Investigating Complementarities between Teacher-Student Ratio and Professional Development

Abstract:

We present a field experiment investigating complementary effects of increased teacher-student ratio and web-based professional development for teachers. The experiment involves 150 public schools, with two incoming first-grade classes at each school, comprising more than 5000 students in total. We investigate effects on students' literacy and motivation as the primary outcome. Moreover, for mechanism investigation, we investigate effects on classroom climate, student-teacher relationship and instructional approaches. The design allows us to investigate effects of increased teacher-student ratio, effects of professional development, and importantly: complementary effects of these two treatments. The evidence suggests that increasing teacher-student ratio or professional development alone has limited effects on student literacy development. However, there is a significant effect of increased teacher-student ratio when combined with professional development. The effect is particularly large for boys and children who scored low at the pre-test.

Keywords: professional development, teacher-student ratio, co-teaching, randomized controlled trial, literacy instruction

Authors: Rita Prestigiacomo (1)

Institution: (1) The University of Sydney, Australia

Contacting author: rpre3636@uni.sydney.edu.au

Title: Higher-Education Language Teachers Learning How to Design Learning Tasks in which Augmented Reality is used

Abstract:

Higher-education language teachers have the opportunity to use Augmented Reality (AR), a technology that overlays virtual objectson the real environment. AR has been proven to enhance students' motivation and enrich their learning experience with a combination of screen-based mixed reality, spatial-contextual awareness, and situated media. However, little is known aboutthe pedagogical affordances of AR and how teachers can use it to improve teaching and learning. This is because mostly there exists limitedresearch on (educational) AR and teachers are not involved in the design of learning tasks in which AR technology is used.

In this poster, I propose that a participatory design approach can provide an avenue to improve the quality of effective learning tasks in AR by integrating the perspectives of teachers, students, and learning designers. I will illustrate my approach by leveraging Design Thinking, a solution-focused methodology, as proposed by the Standford (d. school).

Data will be collected from video recording of a full-day workshop and will be qualitatively analysed through the lens of socio-materiality (Orlikowski, 2007)and Activity Theory (Engeström, 2000).

The engagement of end-users seeks to bridge the gap between design and use phase. Understanding how higher education language teachers can learn to design AR will have implications on future approaches to Professional Development. This study will be also contributing to the field of the Learning Sciences by further expanding the discussion on (practical) participatory design knowledge and efforts.

Keywords: Participatory design; Higher Education; Language acquisition; Augmented Reality; Professional Development

Authors: Simon Schmidt (1); Manuel Längler (1); Hans Gruber (1,2)

Institution: (1) University of Regensburg, (2) University of Turku

Contacting author: simon.schmidt@ur.de

Title: Acquiring the Art of Conducting: Deliberate Practice as Part of Professional Learning

Abstract:

Conducting is a domain in which many students already achieved an expert level in related domains, in particular in instrumental playing. Different practice activities during their studies might be related to and making use of those prior experiences. It is not examined yet, which prior activities conductor students performed before the beginning of their studies and how they value amount, effort, and importance of activities during their studies. This study aims to investigate these issues. Twenty-seven students of Orchestra Conducting at German music universities (which totals about 18.7% of the population) took part in a questionnaire study. The questionnaire investigates their biographical music experiences, their instrumental experience and amount, effort, and importance of practice activities during their studies. Results show that orchestra conductor students have substantial musical experience before they start studying in conducting programs. While domain specific practice activities gain a lot of dedication, score reading seems to play a tremendous role in studying orchestra conduction.

RESEARCH INNOVATION SESSIONS

Authors: Fanny Chrétien (1); Nathalie Girard (2); Madelleine Mirabal-Cano (2)

Institution: (1) Agrosup Dijon, France, (2) INRAE Toulouse, France

Contacting author: fanny.chretien@agrosupdijon.fr

Title: How a training research-intervention based on work analysis may facilitate vocational development?

Abstract:

Starting from an empirical situation in which trainers question the conditions of professional development of livestock farmers, this conference act presents a reflection on the contributions and limitations of action-research aimed at facilitating this development. While vocational didactics makes it possible to design effective learning systems based on work analysis, their effects on vocational development are under investigated. In line with researches registered as vocational didactic interventions, we have designed an action-research setting in collaboration with members of a French training and counselling organization, specialized in the valorization of semi-natural vegetation through grazing practices. This paper describes the settings of this innovative intervention, and the required iterations between research and training engineering, as well as the expected effects and pitfalls anticipated.

Keywords: Pragmatisation – Vocational didactic intervention – Grazing vegetation – Work analysis – Training engineering

Authors: Merel M. van der Wal (1)

Institution: (1) Radboud University Nijmegen, The Netherlands

Contacting author: m.vanderwal@ru.nl

Title: A systems thinking approach to early career teacher attrition in Dutch secondary education

Abstract:

Early career teachers (ECTs) in Dutch secondary education are likely to leave the teaching profession within the first three year after starting as a teacher. As a result, the Netherlands is heading towards a large secondary education teacher shortage by 2023. In response, the Dutch government initiated a nation-wide research program from 2015 to 2019, to understand various causes and effects of ECT attrition rate and the effectiveness of induction programs.

Results of this national research program give insight in various topics related to teacher attrition. Such insights and lessons are currently presented separately, at multiple levels (teacher, coach, team, school) and for various themes (stress, work-life balance, collegiality, etc.), whereas in practice they all form part of the attrition problem.

The objective of this contribution is to use a systems approach to integrate the findings of the national research program. By means of a System Dynamics model, it is possible to find promising leverage points that can affect and address the attrition of ECTs. Exploration of this integrated model will enable a meta-analysis, providing insights on how and where induction programs may be improved in order to reduce attrition rates.

Keywords: Early career teachers; secondary education; attrition; system dynamics; systems thinking

Authors: Verena Watzek (1); Regina H. Mulder (1)

Institution: (1) University of Regensburg, Faculty of Human Sciences

Contacting author: verena.watzek@ur.de

Title: Development of an intervention to foster team learning and innovative work behavior of vocational work teams

Abstract:

Based on the results of two empirical longitudinal studies with the use of different research methods (cf. Schoonenboom & Johnson, 2017), it is planned to develop an intervention for work teams in order to foster team learning and innovative work behavior of vocational educator teams. The results indicated statistically significant longitudinal predictions of emotions and team learning for team learning and innovative work behavior. Vocational educator teams need to be trained to promote their team learning and innovative work behavior, as they have to work on complex knowledge-intensive work tasks, such was quality assurance or the education of refugees. The intervention for the teams will be designed on the basis of the Cognitive Flexibility Theory (Spiro et al., 1991) and the theory of Case Based–Reasoning (Kolodner, 1993). The developed innovative intervention will be evaluated. To measure the effectiveness of the intervention, the intention is to use the four-outcome level model of Kirkpatrick (Kirkpatrick & Kirkpatrick, 2016). The evaluation study will answer different research questions. In the presentation we will focus on the design of the intervention and the evaluation, present different possibilities for both and would like to discuss these.

Keywords: Intervention, work teams, team learning, innovative work behavior, vocational education

Authors: Ilona Friso-van den Bos (1); Sajad Mowlaei (1); Bas Kollöffel (1)

Institution: (1) University of Twente, the Netherlands

Contacting author: i.friso-vandenbos@utwente.nl

Title: This is how we roll: A VR environment for training Situation Awareness in roller operator students

Abstract:

Road construction operators need a strong sense of what is going on around them, termed Situation Awareness, in order to be able to deal with variations, uncertainties, risks, and even hazards in their daily jobs. Although this skill is typically acquired on the job, with Virtual Reality technology, it becomes possible for students to train their SA under the supervision of their teachers in a virtual environment. In this study we aim to develop a VR training for the acquisition of Situation Awareness in vocational asphalting education, and to help teachers with integrating the training in their lessons as well as assessing the students\' performance. The virtual training will consist of several scenarios in which the trainee compacts asphalt, and in which conditions such as weather vary to entice the Situation Awareness of the trainee. The Virtual scenarios will be accompanied by assessment instruments, instructions for teachers and students, and tools for debriefing. In a series of empirical studies, the usability, validity, benchmarks of the training, and merit of debriefing will be investigated. To achieve these aims, intensive and long-term collaborations with partners from vocational education and the industry have been initiated. The training materials, including the VR-app, scenarios, assessments, documentation, and materials, tools, and instructions for debriefing will be made available to teachers and student via a web portal.

Keywords: Virtual Reality; Vocational training; Roller operator; Asphalting; Situation Awareness

Authors: Marijn Wijga (1); Maaike Endedijk (1); Bernard Veldkamp (1)

Institution: (1) University of Twente, The Netherlands

Contacting author: m.wijga@utwente.nl

Title: Understanding Variations in Socially Shared Regulation: Comparing Quantitative Measures

Abstract:

In the field of workplace learning, there is consensus that self-regulation is a key factor in enhancing learning. However, learning at the workplace is often not an individual process, but particularly takes place in interaction. The idea that regulation during collaboration addresses more than individual self-regulation has shifted the attention to the conceptualization of social modes of regulation introducing terms such as socially shared regulation and co-regulation. The aim of this paper is to explore the possibilities of various measures, including percentage of active participants, standard deviations of, (a) amount of utterances per person, and (b) duration of utterances per person, and a social network measure called centralization to identify variations in social regulation taking place during teamwork in the complex setting of the workplace. The main question we aim to answer is: What are advantages and disadvantages of different quantitative measures to identify the sharedness in social regulation in teams? We video-taped 39 meetings of three software development teams and for this study we purposefully selected two meetings of two out of the three teams. Preliminary findings showed that focusing on length of contribution besides number of contributions has additional value. In addition, despite some disadvantages, the use of SNA measures seems promising to get more insights in the distribution of the regulatory statements.

Keywords: Socially shared regulation, Social Network Analysis

Authors: Myra Watson (1); Cathy Grist (1); Lori Caudle (2)

Institution: (1) Western Carolina University, USA, (2) University of Tennessee, Knoxville, USA

Contacting author: mkwatson@wcu.edu

Title: Using Group Coaching to Provide Sustained Support for Curriculum Implementation

Abstract:

Group coaching is defined as a collaborative process where a coach who is knowledgeable in facilitating positive group dynamics is an active member of a group, encouraging productive dialogue and goal achievement (Brown & Grant, 2009). Group coaching is a unique form of professional development because it combines components of individual teacher coaching and learning communities. In this innovative research project, group coaching was used with a group of inservice preschool teachers to guide and support the implementation of a new math curriculum over the course of one school year. Teachers were provided with materials, implementation support, and opportunities to share their practice with the group. Preliminary results, analyzed using an in-depth qualitative coding method, indicate increased depth and breadth in the group dialogue across time and show a particular increase in the frequency of teacher reflection within the group.