Keynote speech by Prof. dr. Äli Leijen 1

27 November 2019 09:45 - 10:45
Struve (Dorpat)
EAPRIL Keynote

Practitioner agency... Why and how we should support it in professional settings

Keywords: Continuing professional development in Teachers, Professional Development, Professional identity, Workplace learning
Interest group:
Chairperson: Kaarina Marjanen, Laurea UAS, Finland

Deriving from Biesta and colleagues (2015), agency is understood as practitioner's meaning making and enactment within specific contexts. Their ecological model encompasses three dimensions, iterational, projective and practical-evaluative, which help to understand the achievement of agency. In this presentation I aim to discuss how context and circumstance promote or hinder practitioner's agency and how their agency could be extended and supported within work context. I illustrate how agency draws largely on one's professional knowledge base. Moreover, agency is also influenced by one's personal history and moral purpose, which, interacting with professional competences, also relate to self- and collective beliefs of enactment. I present three approaches to reflection which could be used to support this wide array of conditions for achieving agency. These procedures can be seen as complementary and promoted within workplace by means of different professional development activities.

Practitioner agency... Why and how we should support it in professional settings
Presenting Author:Äli Leijen, University of Tartu, Estonia

Deriving from Biesta and colleagues (2015), agency is understood as practitioner's meaning making and enactment within specific contexts. Their ecological model encompasses three dimensions, iterational, projective and practical-evaluative, which help to understand the achievement of agency. In this presentation I aim to discuss how context and circumstance promote or hinder practitioner's agency and how their agency could be extended and supported within work context. I illustrate how agency draws largely on one's professional knowledge base. Moreover, agency is also influenced by one's personal history and moral purpose, which, interacting with professional competences, also relate to self- and collective beliefs of enactment. I present three approaches to reflection which could be used to support this wide array of conditions for achieving agency. These procedures can be seen as complementary and promoted within workplace by means of different professional development activities.

Sessions A 1

27 November 2019 11:15 - 12:45
Finland (VSpa)
EAPRIL Cloud Spotlight Session
Higher education

CLOUD 1 - Building Bridges. Good Examples of Innovative Teacher Education Practices

Keywords: Higher education, In-service Teacher Training, Initial Teacher Education (Pre-service), Innovations in education
Interest group: CLOUD 01 - Teacher education
Chairperson: Miranda Timmermans, Avans university of applied sciences, Netherlands
Chairperson: Helma Oolbekkink-Marchand, Netherlands

CLOUD 1 - Building Bridges. Good Examples of Innovative Teacher Education Practices
Keywords: Higher education, In-service Teacher Training, Initial Teacher Education (Pre-service), Innovations in education
Presenting Author: Miranda Timmermans, Avans university of applied sciences, Netherlands; **Presenting Author:**Helma Oolbekkink-Marchand, Radboud University, Department of Teacher education & HAN University of Applied Sciences, Netherlands

The aim of Cloud 1 is to study innovative practices in teacher education that aim to enhance student teacher agency. Last year during the spotlight session we explored participants innovative practices in teacher education, and we discussed what factors support and do not support (beginning) teachers' agentic behavior and feeling of ownership through these practices. Based on the input of examples of innovative practices of the attendants, we found that innovative practices shared some characteristics, namely encouraging ownership, authentic / real life learning, creativity, boundary crossing, adaptive (context / people sensitive). We still are interested in the why of innovative practices, and in building knowledge and sharing knowledge about these practices. During this year's spotlight sessions once again the innovative practices of some of the attendants are central. In a structured way and in small groups we want to analyze several practices trying to pinpoint the uniqueness of the practice and at the same time finding the more general building block that might help other educators in their practice. The sessions will be the starting point for a publication containing both examples of innovative teaching practices, and an analysis of these examples to inspire teacher education in Europe.

Sessions A 2

27 November 2019 11:15 - 12:45
Lithuania (VSpa)
EAPRIL Cloud Spotlight Session
Higher education

CLOUD 2 - Educators' Professional Development

Keywords: Professional Development, Professional identity, Professionalisation of educators, Research-based learning
Interest group: CLOUD 02 - Educators' professional development
Chairperson: Marjan de Groot-Reuvekamp, Fontys University of Applied Sciences, Netherlands
Chairperson: Henderijn Heldens, Fontys University of Applied Science, Netherlands

CLOUD 2 - Measuring professional growth in teacher learning groups
Keywords: Professional Development, Professional identity, Professionalisation of educators, Research-based learning
Presenting Author: Anouke Bakx, Fontys University, Radboud University, Netherlands; **Presenting Author:**Loes van Wessum, Windesheim Flevoland, Netherlands; **Co-Author:**Emmy Vrieling, Open University of the Netherlands, Netherlands; **Co-Author:**Isabelle Diepstraten, open universiteit, LOOK, Unknown; **Co-Author:**Iwan Wopereis, Open University of the Netherlands, Netherlands

Measuring teachers' professional growth often includes a mixture of portfolio analyses and classroom observations. This study presents a newly constructed instrument to measure professional growth. This instrument is called the Interview Guide to measure Teachers' Professional Growth (IG-TPG). The instrument builds on a questionnaire that records (the relationship between) constituents of professional growth (i.e., personal domain, external domain, domain of practice, and domain of consequence) as depicted by Clarke and Hollingsworth's Interconnected Model of Professional Growth (IMPG). We used the interview guide to capture the professional growth of six primary school teachers in teacher-learning groups in two different settings. The results of our interview study show that most of the teachers did not experience extensive growth yet, at the time the interviews were administered. This might be due to the fact that these teachers participated in teacher-learning groups that were (still) in exploratory and analytic phases of their educational (design) research projects.An evaluation shows that the instrument has potential value: we could identify elementary constituents of the IMPG and establish growth (if occurred). Additional research is

necessary to validate the instrument.

CLOUD 2 - Developing an inquisitive attitude in teacher learning groups
Keywords: Professional Development, Professional identity, Professionalisation of educators, Research-based learning
Presenting Author: Emmy Vrieling, Open University of the Netherlands, Netherlands; **Presenting Author:**Loes van Wessum, Windesheim Flevoland, Netherlands; **Co-Author:**Anouke Bakx, Fontys University, Radboud University, Netherlands; **Co-Author:**Iwan Wopereis, Open University of the Netherlands, Netherlands

Learning in teacher learning groups (TLGs) can support (student-)teachers, teacher educators, and researchers in developing their expertise. For two years, we mapped the inquisitiveattitude of 35 participants of five TLGs. Learning in TLGs was facilitated differently in the different TLGs. Four TLGs jointly studied and designed products. Members of the fifth TLG performed research individually and simultaneously they took part in two larger TLGs joint research projects, led by researchers. Further, the composition of TLGs differed. In this fifth TLG, only one student-teacher participated in a researcher role. On the other hand, in the four other PLGs, student teachers participated continuously in the role of practising members. The study shows that learning in TLGs positively influences teachers' inquisitiveattitude regardless of the composition and organisation of the TLG. Our findings implicate that (student)teachers, researchers and educators learning together in TLGs can support professional development and the growth of an inquisitive attitude.

Sessions A 3

27 November 2019 11:15 - 12:45
Krause (Dorpat)
EAPRIL Cloud Spotlight Session
Higher education

CLOUD 4 - Welcome to tomorrow: Creating the 21st century learningscape

Keywords: 21st century learning, Creativity, Innovations in education, Lifelong Learning
Interest group: CLOUD 04 - Improving learning and well-being
Chairperson: Zarina M. Charlesworth, Switzerland

CLOUD 4 - Welcome to tomorrow: Creating the 21st century learningscape
Keywords: 21st century learning, Creativity, Innovations in education, Lifelong Learning
Presenting Author: Zarina M. Charlesworth, University of Applied Sciences & Arts Western Switzerland // HES-SO, Switzerland

How can educators and educational institutions shape the learningscape of tomorrow? In a world characterized by change and uncertainty the only thing that we can rely upon is the necessity to prepare students with the skills and competences needed to evolve professionally. Within the context of innovation and well-being in education, this session will draw on the World Café method with two-fold objectives:1. to learn how to practice this method of creativity and ideation;2. share our knowledge of the world of education and share practices in the co-creation of solutions that we as individuals can already implement. The session will close with a presentation and synthesis of ideas exchanged.

Sessions A 4

27 November 2019 11:15 - 12:45
Estonia + Latvia (VSpa)
EAPRIL Cloud Spotlight Session

CLOUD 11-From practical question to research question. Demand articulation in PBR

Keywords: Innovations in education, Inquiry learning, Practice-based research (methodology), Problem Solving
Interest group: CLOUD 11 - Practice-based Research Methodology
Chairperson: Niek van den Berg, Aeres University of Applied Sciences Wageningen, Netherlands
Chairperson: Lisette Munneke, Utrecht University of Applied Sciences, Netherlands
Chairperson: Marco Mazereeuw, Netherlands

CLOUD 11-From practical question to research question. Demand articulation in PBR
Keywords: Innovations in education, Inquiry learning, Practice-based research (methodology), Problem Solving
Presenting Author: Niek van den Berg, Aeres University of Applied Sciences Wageningen, Netherlands

Considering to use practice-based research to work on a specific issue in professional practice, is a crucial phase that requires specific attention. For example, what are all relevant perspectives of stakeholders on the professional issue? Who 'owns' the issue? In The Netherlands, a review study had been conducted, intended to generate guidelines for practitioners and researchers to strengthen the quality of demand articulation, and by doing that, to formulate better research questions and to conduct better research with a better contribution to solving the initial professional issue.This Spotlight Session 2 starts with an open inventory of experiences of workshop participants with demand articulation in the context of PBR. Prior to the workshop some (invited) contributors introduce such a case. After this inventory, the reason and approach of the overview study are briefly explained. Next, an infographic of the review study is presented. Deepening of the discussion is stimulated by asking the participants to compare the practical experiences discussed at the start with the infographic. The spotlight session ends with conclusions of the workshop participants.

Sessions A 5

27 November 2019 11:15 - 12:45
Peterson (Dorpat)
Symposium
Secondary education

Customization in education: how can teachers adapt instruction and guidance to learners' needs

Keywords: At-risk students, Diversity, Instructional Design and Instructional Strategies, Meta-cognition and metacognive learning, Primary school education, Secondary school education
Interest group:
Chairperson: Bert van Veldhuizen, Hogeschool van Amsterdam, Netherlands
Discussant: Wouter Smets, Belgium

Because of consecutive migration flows and inclusive education policy , teachers in the Netherlands are confronted with ever growing differences and learner variance in their classroom. This asks for teachers to adapt their instruction and guidance to the individual learning needs of their students, moreover important in schools with a large number of low achieving students. Customization and differentiation are key concepts in this context. Though the concepts of customization and differentiation are promising one must be aware of their complexity: teachers are struggling to translate these concepts to their daily, already challenging practice. Many teachers feel uncertain about their competences to effectively address learner variance. This symposium presents three different perspectives on this issue. At first we present a study on the demands for customization of learners in secondary education and how to effectively provide

novice teachers adequate support to optimize learning of their students. The second paper shows to what extent the conditions for customization of education are met in a pre-vocational college. The last paper focuses on the way self-regulation and metacognitive support can contribute to customization in a school for hearing-impaired students.

Effectively strengthening novice secondary teachers differentiation skills in the urban classroom
Presenting Author: Berber Langelaan, Hogeschool van Amsterdam, Netherlands

Urban schools in the Netherlands are facing increasing numbers of pupils from more diverse backgrounds. Novice secondary teachers in urban schools must deal with issues that apply to all novice teachers. In addition, they must adequately address learner variance by adapting their teaching to socio-cultural and cognitive differences between their pupils. Embracing diversity, differentiation of instruction is a call for teachers to adjust curriculum, materials, and student support to ensure that students have equal opportunities in accessing high-quality instruction and consequently advance academically, socially, and emotionally. Though differentiation is a promising philosophy, one must be aware of its complexity and what teachers are up against while struggling to apply it into their everyday, already challenging, practices. Teacher induction professionalization with a focus on differentiation can contribute to teacher competences and teacher retention, but not all teacher PD is found to be effective. The PHD research project aims at the development of an effective teacher PD program for strengthening teacher differentiation competences. This study entails the first phase of the project: a literature review on differentiated instruction, characteristics of effective teacher differentiation PD and practical input for the to be developed intervention.

Tailor-made pre-vocational education in a Dutch urban school
Presenting Author: Olga Onrust, Zuiderlicht College, Netherlands; **Co-Author:**Bert van Veldhuizen, Hogeschool van Amsterdam, Netherlands

This study reports about a school participating in a national pilot ‘tailor-made education’ because the school wants to do justice to differences between their pupils and stimulate equity. Tailor-made education is education that meets the specific needs and talents of the students. It’s all about autonomy and creating possibilities for making choices. Customization of education is the possibility offered to pupils to accelerate, broaden or deepen their curriculum or even the choice of not doing something. The research studies the possibilities and the most desirable and scientifically proven conditions for offering tailor-made education from the student’s and the teacher’s perspective focusing on well-being, a positive classroom climate and intrinsic motivation. It outlines the differences between the current and the desired conditions and the willingness of teachers to change and shape this innovation to forms successful for the school. It involves explorative and diagnostic research using both quantitative and qualitative data: student and teacher surveys and group interviews. Unfortunately, the students do not experience that the best conditions are met, but the teachers are reluctant to change. The art of change management is recommended; create a shared vision, work on a clear professionalization policy and just do it.

Teaching children how to think. A research into teachers’ feedback aimed at pupils’ metacognition.
Presenting Author: Shirley Neirynck, Hogeschool van Amsterdam, Netherlands; **Co-Author:**Bert van Veldhuizen, Hogeschool van Amsterdam, Netherlands

Signis is a primary school for hearing-impaired pupils. The school is in transition from teacher-driven to pupil-driven education. Stimulating the pupils' ownership of learning is one of the cornerstones of this transition. This cannot be reached without improving the pupils' metacognition. This study focusses on the teachers' skills in providing feedback and asking questions to improve pupil metacognition. In addition, the research addresses how the teachers think they can improve these skills, in other words, how their professionalisation should be shaped. The results show that teachers do ask questions and give feedback on metacognition. However, both are too much focused on looking back and too little on the goal or the next step in the pupil's learning process. The feedback turns out to be sufficiently specific, but insufficiently targeted and positively formulated. The metacognition is approached unilaterally in terms of 'planning and self-instruction'; 'monitoring' and 'evaluating' receive too little attention. There is support among the teachers to improve their skills in this area and they have a clear view of their professionalisation: acquiring knowledge, seeing good examples, practising, coaching and exchanging peer feedback.

Sessions A 6

27 November 2019 11:15 - 12:45
Baer (Dorpat)
Symposium
Secondary education

Current developments in Lesson Study in the Netherlands

Keywords: At-risk students, Biology education, Chemistry education, Collaborative Learning, Continuing professional development in Teachers, Cooperative learning, Emotion and emotional development, In-service Teacher Training, Initial Teacher Education (Pre-service), Knowledge Building and Development, Professional Development, STEM, Teacher thinking, Team Learning
Interest group:
Chairperson: Wouter R. van Joolingen, Utrecht University, Netherlands
Discussant: Margus Pedaste, University of Tartu, Estonia

Lesson Study carries the promise of providing a strong combination of educational reform and teacher professional development. Lesson Study’s cycle of design by teachers, observation with focus on the student and redesign offers a unique regime in which focus on student learning, teacher professional development and educational innovation can come together naturally. In this Symposium we present current initiatives for Lesson Study in the Netherlands. In four presentations we will provide an overview of the way Lesson Study has been introduced in the Netherlands and how it currently finds its way into educational practice. The contributors approach Lesson Study from different angles: focus on the teacher, initial teacher education, the role of the lesson study facilitator and professional learning of teacher educators.

Lesson Study as a Vehicle for Teachers in Understanding and Researching Bullying Situations
Presenting Author: Sui Lin Goei, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**Jeroen Pronk, VU University Amsterdam, Netherlands; **Co-Author:**Tirza Bosma, VU University Amsterdam, Netherlands; **Co-Author:**Wilma Jongejan, VU University Amsterdam, Netherlands

Since 2015, Dutch secondary schools are mandated by law to actively intervene in situations that compromise the health of their classrooms’ social dynamics (i.e., bullying). From 61 available anti-bullying programs on the Dutch market to support schools only thirteen were evaluated as effective (Wienke, Anthonijsz, Abrahamse, Daamen, & Nieuwboer, 2015). In this presentation we demonstrate how Lesson Study can be used as an approach to make classroom social dynamics and bullying a topic for discussion in the classroom. The approach was based on the “pestplotter” an analysis instrument for making social dynamics in the classroom visible. The results of this social dynamics analysis for the basis for the teachers' lesson designs.

Supervising Lesson Study in Initial Science Teacher Education
Presenting Author: Wouter R. van Joolingen, Utrecht University, Netherlands

Although Lesson Study is traditionally aimed at teacher professional development, there is also a long standing practice of applying it in initial teacher education. Although Lesson Study is clearly a powerful tool in this context, it appears that the main models of Lesson Study cannot be used as is in teacher education. Successful participation in a Lesson Study team hinges on teachers’ experience and ability to bridge between theory and practice. In the current study we present how Lesson Study practices can be adapted to be suitable for initial teacher education, with a focus on the way Lesson Study teams consisting of student teachers can be supervised and provided with the necessary expertise.

An Exploration of Lesson Study Facilitators’ Roles and the Enhancement of Teacher Learning
Presenting Author: Sui Lin Goei, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**Iris Uffen, University of Groningen, Netherlands; **Co-Author:**Siebrich de Vries, University of Groningen, Netherlands; **Co-Author:**Klaas van Veen, University of Groningen, Netherlands; **Co-Author:**Nellie Verhoef, University of Twente, Netherlands

High-quality implementation of Lesson Study (LS) proves difficult to foster. Teachers need to know the procedures of LS and work collaboratively and inquiry-oriented. Facilitating this process for teachers seems beneficial to maximize their learning (Lewis, 2016). In this study, we take on a teachers' perspective to explore how facilitating behavior contributes to teacher learning. In this study we focus on the Lesson Study facilitator and how his or her role influences the Lesson Study process and the learning of teachers in the LS team. The facilitators were viewed from the perspective of the participating teachers, by means of a questionnaire that was administered among them. The results suggest the importance of facilitators to contribute to topic exploration, and stimulate deep conversation and deepening of (P)CK to enhance teacher learning.

Teacher educators' professional learning through Lesson Study
Presenting Author: Tijmen Schipper, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**Martijn Willemse, Windesheim University of applied sciences, Netherlands; **Co-Author:**Sui Lin Goei, VU University Amsterdam, Netherlands

At a meta-level, Lesson Study has potential not only for teachers, but also for their educators. In a study involving ten teacher educators it was investigated how Lesson Study could contribute to student motivation to read literature and on developing students' view on teachers' role and identity. Teacher educators were followed and interviewed during the Lesson Study cycle and expressed their view on how Lesson Study could contribute to their professional growth. They reported that Lesson Study supported collaboration between teacher educators and supports them to focus in depth on their own practices. Moreover, they reported that Lesson Study supported in the use of literature and creating a shared language and view on teacher education and pedagogy. Boundary conditions for the successful implementation of Lesson Study are available time and scheduling that allows for joint team meetings.

Sessions A 7

27 November 2019 11:15 - 12:45
Parrot (Dorpat)
Symposium
Higher education

Excellence in Higher education (Spotlight session by NRO)

Keywords: Beliefs and conceptions of learning, Beliefs and conceptions of teaching, Cognitive Skills & Development, Creativity, Culture and Education, Higher education, Motivation, Professionalisation of educators, Teaching approaches
Interest group:
Chairperson: Marca V.C. Wolfensberger, Hanzehogeschool Groningen, Netherlands
Organiser: Elanor Kamans, Hanze University of Applied Sciences, Netherlands
Discussant: David Gijbels, University of Antwerp, Belgium

Honours programmes are selective study programmes linked to higher education institutions. They are designed for motivated and gifted students who want to do more than the regular programme offers. These programmes have clear admission criteria and clear goals and offer educational opportunities that are more challenging and demanding than regular programmes[1]. Honours education is nowadays a common phenomenon in Dutch higher education[1]. Between 2008-20014, the Dutch government subsidized the development of honors education. This was evaluated in 2015[2]. Despite this evaluation, blanks within our knowledge on honours education still exists. In 2015, the Dutch Organization NRO therefore funded three 4-year research projects on excellence in higher education. In this symposium we present the findings of these projects. Within this symposium we focus on differences between honours and regular education and what these differences imply for knowledge on honours education and educational practice. The first contribution focuses on added value of honours education and on student characteristics and what these characteristics imply for selection procedures. The second contribution focusses on differences in conceptions of excellence and why gaining insight into this is important. Finally, the third contribution focusses on differences in teaching strategies between honours and regular students.

Excellence in higher education: selection, effectivity and diffusion effects
Presenting Author: Madelon Jacobs, Research Centre for Education and the Labour Market, Netherlands; **Co-Author:**Tim Tim Huijts, Maastricht University, Netherlands; **Co-Author:**Kim Van Broekhoven, Maastricht University, Netherlands; **Co-Author:**Maarten Wolbers, Radboud University Nijmegen, Netherlands; **Co-Author:**Bianca Leest, Radboud University Nijmegen, Netherlands; **Co-Author:**Renze Kolster, University of Twente, Netherlands; **Co-Author:**Don Westerheijden, University of Twente, Netherlands; **Co-Author:**Marieke Isendam, Hogeschool van Arnhem en Nijmegen/HAN University, Netherlands

The 'Sirius' programme, a funding instrument for excellence programmes in the Netherlands, stimulated the development of honours programmes. Evaluation after this subsidy suggested further research into selection instruments of honours programmes as well as the individual effects of honours programmes on students. This research addresses both issues based on interviews and student survey data from nine different honours programmes at five higher education institutions in the Netherlands. The interviews took place with recruiters of honours programmes and focused on selection processes. The student-data was gathered at the start and end of student's participation in honours programmes, and was furthermore gathered from students who followed regular educational curricula. In the end, information on about 1200 students enables us to compare the development of honours students relative to the development of regular students. We can examine whether regular students differ from students in honours programmes when it comes to motivation, perseverance and personality as well as cognitive and non-cognitive skills like critical thinking, leadership and creativity. The results of this research help practitioners to establish the right match between student and honours programme, which is essential to ensure the success of both the student and the honours programme.

Talking excellence: Presenting two reflective tools for clarifying conceptions of excellence
Presenting Author: Elanor Kamans, Hanze University of Applied Sciences, Netherlands; **Presenting Author:**Nelleke de Jong, Hanze University of Applied Sciences, Groningen, Netherlands; **Co-Author:**Bouke Van Gorp, Utrecht University, Netherlands; **Co-Author:**Maartje van den Bogaard, TU Delft, Netherlands; **Co-Author:**Svenja Buttner, Hanze University Groningen. University of Applied Sciences, Netherlands; **Co-Author:**Mieke Boon, University of Twente, Netherlands; **Co-Author:**Marca V.C. Wolfensberger, Hanzehogeschool Groningen, Netherlands

Mission statements of universities often emphasize the importance of a culture of excellence. Honours programs are expected to contribute to such a culture, by providing talented and motivated students the opportunity to excel and by creating a culture in which excelling is accepted. However, what is a culture of excellence and how can this be measured? Answering these questions is not straightforward as the concept of 'excellence' in higher education has been used in various and contradictory ways. In our contribution, we therefore present two tools that both give more insight in conceptions on excellence. First, we present a *Framework for Analyzing Conceptions of Excellence* (FACE), based on literature on excellence, giftedness and school culture that does justice to his variety. Second, we present data from a quantitative study, using the *Culture of Excellence Survey* (CoE-survey) (N = 1222). Preliminary findings show that teachers tend to have more crystalized conceptions on excellence than students. Further, differences between honours students and regular students emerged. More specifically, conceptions of regular students tend to be more narrow, whereas honours students show a broader variety in their ideas. Practical implications of using FACE and the CoE-Survey are discussed.

Honours students' needs and preferences for autonomy support: developing an eLearning module
Presenting Author: Joke van der Mark - van der Wouden, UMCG, Netherlands; **Co-Author:**Johanna Schönrock-Adema, University of Groningen and University Medical Center Groningen, Netherlands; **Co-Author:**Laura Smids, University of Groningen and University Medical Center Groningen, Netherlands; **Co-Author:**Tineke Kingma, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**Ada Kool, Utrecht University, Netherlands; **Co-Author:**Debbie Jaarsma, University of Groningen and University Medical Center Groningen, Netherlands

Honours students need different teaching strategies than regular students. The difference is mainly in the amount of autonomy support they need. Finding good balance is important for intrinsic motivation of students. Teachers indicate that they are struggling to find the right balance between giving autonomy and offering structure. This is possibly because the optimum amount of autonomy is not the same for every (honours) student. Our first study investigated which social and

contextual factors affect honours students' needs for autonomy support and how. Second, we investigated the teaching approach and the underlying conceptions when teaching in two different settings (Honours vs. regular undergraduate). Our first study used focus groups with students from extracurricular-honours programs to explore their needs for autonomy support. For the second study, data were collected with semi-structured individual face-to-face interviews to gain insight in the individual approach of teachers. The focus groups and interviews were audio recorded, transcribed verbatim and analyzed using qualitative thematic analysis. In the focus groups, students described three types of support and four factors affected their needs for autonomy support. The interviews revealed differences in conceptions about teaching in different contexts. The results of both studies are used to develop an eLearning module.

Sessions A 8

27 November 2019 11:15 - 12:45
Sweden (VSpa) - Table 1
Roundtable
Higher education

Collaborative Learning Processes

Keywords: Assessment and evaluation, Collaborative Learning, Cooperative learning, Emotion and emotional development, Higher education, Peer Interaction / learning, Practice-based research (methodology), Web-Based Learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments
Chairperson: MARIA IVANILDA SIMOES DE CAMARGO, Brazil

Development and validation of a co-creation questionnaire in higher education
Keywords: Assessment and evaluation, Collaborative Learning, Higher education, Practice-based research (methodology)
Presenting Author: Miranda de Hei, The Hague University of Applied Sciences, Netherlands; **Co-Author:**Inge Audenaerde, The Hague University of Applied Sciences, Netherlands

This study regards the development and validation of a co-creation questionnaire to be used in higher education. We define co-creation as a collaborative process where students, teachers and parties from outside the university work together to generate innovative products, processes or knowledge. The purpose of this research is to develop a tool that can be used to assess the co-creation process of students, teachers and external partners in higher education in order to give guidance in optimising the co-creation process. The results of a literature study provided input for the scales and subsequent items. We tested the questionnaire by having five students fill in the questionnaire using a thinking out loud procedure during the session. We will present the concept of the questionnaire during the round table to ask participants to also test the questionnaire, to help us find the gaps regarding literature, scales and items.

Searching on the Web: The effect of collaborative learning on emotions and epistemic thinking
Keywords: Cooperative learning, Emotion and emotional development, Peer Interaction / learning, Web-Based Learning
Presenting Author: Ayano Tsuda, Kyoto University, Japan; **Co-Author:**Emmanuel Manalo, Kyoto University, Japan

In the 21st Century the ability to use the Internet is an essential skill. However, the fact that terms such as "fake news" have started to impact society since 2016 (Lewandowsky, Ecker, & Cook, 2017) imply the possible challenges that students nowadays face concerning the interpretation and evaluation of information they find on the Web (Brand-Gruwel et al., 2017). Though many theories exist for information seeking at an individual level (Shah & Gonzalez-Ibanez, 2010), this research focuses on collaborative information seeking, based on the importance collaborative learning has on improving learning performance (Zheng & Huang, 2016). More specifically, students will be asked to work on a collaborative information seeking activity about a controversial topic in a group of up to five people. Their interactions will be recorded and analyzed using a device that tracks the amount and direction of the interaction. The emotions they experience will be a primary focus, in which we will ask whether positive emotions students express during the activity foster their evaluations of the information obtained in a more constructivist manner. The investigation will aim to elucidate possible positive aspects that collaborative learning may have on students' cognitive and emotional functioning in a complex multimedia environment.

Sessions A 9

27 November 2019 11:15 - 12:45
Sweden (VSpa) - Table 2
Roundtable
Vocational education

Educational Effectiveness and Quality

Keywords: Assessment and evaluation, Competence-based education, Educational Effectiveness and quality of education, Educational Technology, Practice-based research (methodology), Professional Development, Secondary school education, Vocational education
Interest group: CLOUD 11 - Practice-based Research Methodology
Chairperson: Anthony Thorpe, University of Roehampton, United Kingdom

A design research into the quality of the developed learning materials
Keywords: Competence-based education, Educational Effectiveness and quality of education, Practice-based research (methodology), Vocational education
Presenting Author: Charissa Doelwijt, Hogeschool van Amsterdam, Netherlands; **Co-Author:**Bert van Veldhuizen, Hogeschool van Amsterdam, Netherlands

Due to a revision of the qualification structure the team of the course Social Care (MZ4) had to develop new teaching materials. Vocational schools are familiar with these revisions. They have to provide the job market of a rapidly changing society with an up-to-date workforce (Herziening mbo, 2017). Teacher teams have to balance external needs with their own vision and ambitions (De Bruijn, 2006). Besides, they have to look after the quality of their course and course materials. Accordingly, a design research was executed with the following main question: "What are the characteristics of an instrument to monitor the quality of the developed learning materials of the course MZ4 of the ROC of Amsterdam?" We used CIMO-logic (Andriessen & Kliphuis, 2011) to explicate five design principles. This resulted in a specific hand-guide for teachers regarding development and monitoring of qualitative learning materials, which can be used for other courses although it may need some adaptation to their vision and ambitions. In this round table we want to explore the possibilities to engage students and the work field in development and monitoring of qualitative learning materials. We like to discuss the possibilities to develop an adjusted handguide with an universal character.

An in-depth investigation of teachers' use of extracted analytics in secondary education
Keywords: Assessment and evaluation, Educational Technology, Professional Development, Secondary school education
Presenting Author: Anouschka van Leeuwen, Utrecht University, Netherlands; **Co-Author:**Lysanne Post, Leiden University, Netherlands; **Co-Author:**Ditte Lockhorst, Oberon research institute, Netherlands; **Co-Author:**Wilfried Admiraal, Leiden University, Netherlands; **Co-Author:**Liesbeth Kester, Utrecht University, Netherlands

The use of computer-based assessments (CBAs) provides students with opportunities to practice their skills, and simultaneously provides teachers with data that inform them about the performance level and details of their students' assessments. The present study concerns a collaboration between three research institutes and five schools in secondary education. In this study, we examined teachers' current practices at the five participating schools in terms of the use of extracted analytics and differentiated teaching. Two research questions were formulated:1. How do secondary school teachers use extracted learning analytics for differentiated teaching in class?2. How are characteristics of teachers and school environment related to teachers' use of extracted analytics? The study was conducted with 40 teachers from 5 schools. Multiple instruments were used, namely questionnaires to measure teacher and school characteristics, and teacher

logbooks and interviews to measure teachers' current use of CBAs and extracted analytics.

Sessions A 10

27 November 2019 11:15 - 12:45
Sweden (VSpa) - Table 3
Roundtable
Higher education

Preparing Students for Society and Workplace

Keywords: Beliefs and conceptions of teaching, Competence-based education, Culture and Education, Higher education, Labour market & formal learning, Multiculturalism in Education, Secondary school education, Teaching approaches
Interest group: CLOUD 01 - Teacher education, CLOUD 05 - HRD & Workplace learning
Chairperson: Wojciech Czart, Poland

Who am I: Citizenship education and pupils' personal development
Keywords: Beliefs and conceptions of teaching, Culture and Education, Multiculturalism in Education, Secondary school education
Presenting Author: Peter Mesker, HU University of Applied Sciences Utrecht, Netherlands

One of the main themes in our current society is the growing polarization between people with different socio-cultural backgrounds. Those tensions have resulted in questions about the role of citizenship education. The upcoming study will be designed as a qualitative case-study, exploring teachers' and teacher educators' perspectives on world citizenship education, and what it means to be a "good citizen". The problem with the current approach of citizenship education is twofold. One, citizenship education focuses on social cohesion in order to diminish polarization. By conforming to a type of common framework with shared values and rules there is a chance that students are not challenged to think independently or critically (Biesta, 2010). Second, existing strategies on citizenship education also have a short-term planning to "solve" the existing polarization. However, citizenship education includes personal development which is hard to measure with particular learning outcomes, or competencies (Biesta, 2014). This study explores how the interruption of cross-cultural boundary experiences (either at home, or abroad) by focusing on two research questions: (a) what are teachers' and educators' perspectives on what it means to be a (world) citizen? (b) how can teachers and educators use cross-cultural boundary experiences in (world) citizenship education?

How can we prepare future professionals for a hybrid career?
Keywords: Competence-based education, Higher education, Labour market & formal learning, Teaching approaches
Presenting Author: Quinta Kools, Fontys Hogescholen, Netherlands; **Co-Author:**Marian Thunnissen, Fontys University of Applied Sciences, Netherlands; **Co-Author:**Petra Poelmans, Fontys University of Applied Sciences, Netherlands

It is the expectation that professionals in the near future will switch jobs more often than they do nowadays, or that they will combine jobs in order to fulfil their professional or personal interests. At our University of Applied Sciences, this raised the question how we can prepare professionals for these so-called hybrid careers. We conducted a literature search on career pathways and career abilities and we studied several options for curriculum design. Our study revealed that future professionals need to possess career competencies (knowing why, knowing who, knowing how). The question remains, however, what would be a suitable way to incorporate these competencies to the curriculum and how these competencies can be assessed. The building blocks of High Impact Learning of Dochy et al (2015) might offer a suitable curriculum design to do this. In this round table session, we invite the participants to engage in a discussion around the question: *how can career competencies be embedded in the curriculum of higher education and might this be supported by using the building blocks of High Impact Learning*?'?'

Sessions A 11

27 November 2019 11:15 - 12:45
Sweden (VSpa) - Table 4
Roundtable
Higher education, Workplace learning

Music & Arts in Education and at the Workplace

Keywords: Creativity, Deep-level and profound learning, Higher education, Music & Arts Education, Professional Development, Workplace learning
Interest group: CLOUD 09 - Sounds & Arts in Transversal Learning, CLOUD 14 - Learning in Organisations
Chairperson: Liesbeth Baartman, Utrecht University of Applied Sciences, Netherlands

Masters & Companions: breathing together
Keywords: Deep-level and profound learning, Music & Arts Education, Professional Development, Workplace learning
Presenting Author: Joseph Kessels, Twente University - Open University, Netherlands; **Co-Author:**Tjip De Jong, Tjip de Jong, Netherlands

AbstractMasters & Companions is a unique and successful concert series where young musicians work together with very experienced singers. During a relatively short but intensive rehearsal period, they work towards a concert series with a world-renowned conductor. Deep and collaborative learning while maintaining a very high professional standard yields top performance. We assume that profit and not-for-profit organizations can learn from this special program focusing on conveying deep smarts and implicit experiences.
Main research question: Which characteristics of this Music & Arts learning environment are conducive to experimentation, learning and professional growth in a corporate setting?
Research design and methodology: After building a conceptual framework, interview guidelines have been developed for conducting 36 interviews with conductors, masters and companions. The analyzed data have been validated in a feedback meeting. The objective of the Eapril 2019 Roundtable meeting is to discuss an approach that enables a meaningful translation of the findings from a Music & Arts setting to learning and development in the corporate world.

Tales from Moominvalley: The Arts in learning – a pedagogy of relatedness
Keywords: Creativity, Higher education, Music & Arts Education, Professional Development
Presenting Author: Kaarina Marjanen, Laurea UAS, Finland; **Co-Author:**Sabine Chatelain, University of Teacher Education, State of Vaud (Lausanne), Switzerland

Western societies have been performing such a policy that has strongly cut the structures of the wellbeing of the people to create the society: Human civilization needs the power of education, which is supported by a strong cultural integration, and especially via the human arts from the perspective of Tacit Knowledge (Polanyi [1966] 1983).
Emotions are transmitted through music (Meyer 1956). The literature Tove Jansson wrote about "The Invisible Child" (1962/1963), expressing in this children's story her strong message of the meanings of emotions for us. The story tells about a girl called Ninni, being visible because she feels she cannot be heard or seen by the others, and she comes visible again when her emotions are being recognized and she is being seen again (cf. Issakainen 28.3.2019).
In this roundtable, the story is being used as a guideline and a ground when observing the Arts in learning, with arts experiences to support the discussion. The teacher students in higher education will provide us with examples presented from Finland and Switzerland. The development of a new project, to observe the pedagogy of relatedness, supported by musical input in pedagogical solutions will be set as a target.

Sessions A 12

27 November 2019 11:15 - 12:45
Sweden (VSpa) - Table 5
Roundtable
Secondary education, Workplace learning

Teachers' Approaches in the Classroom

Keywords: Assessment and evaluation, At-risk students, Beliefs and conceptions of learning, Continuing professional development in Teachers, Creativity, Motivation, Professionalisation of educators, Well-being and engagement
Interest group: CLOUD 04 - Improving learning and well-being, CLOUD 05 - HRD & Workplace learning
Chairperson: Helga Aadland, Norway

Growth mindset interventions: opening up the debate on do's and don'ts
Keywords: At-risk students, Beliefs and conceptions of learning, Motivation, Well-being and engagement
Presenting Author: Kendra Geeraerts, Karel De Grote University College, Belgium; **Presenting Author:**Lien Fret, Karel de Grote Hogeschool, Belgium; **Co-Author:**Kristel Vanhoyweghen, Karel De Grote University College, Belgium

In this roundtable we will present and discuss the interim results of the project on growth mindset. This Eramus+ funded research and practice project brings together expertise of an international team of educational scientists, teacher educators and teachers to tackle the salient issue of early school leaving. In 2016 there were still more than 4 million early school leavers (ESL) across Europe. ESL often relates to students' low well-being, truancy, and school fatigue (e.g. Attwood and Croll; 2006). Growth mindset interventions especially benefit students with low socio-economic status or who are academically at risk and can therefore narrow achievement gaps (Paunesku et al., 2015; Sisk, Burgoyne, Sun, Butler, & Macnamara, 2018).The aim of our project is (1) to support the development of a growth mindset of 14-16 year old students and (2) to support teachers in developing a growth mindset approach within their classroom practices. More concretely, growth mindset interventions will be established for both students and teachers, by conducting a toolbox. Design research methods are used. Data will be collected in 5 different European countries (Belgium, The Netherlands, France, Portugal and Poland). In each country, at least 10 teachers will participate in the process.

Measuring teachers' innovative behavior
Keywords: Assessment and evaluation, Continuing professional development in Teachers, Creativity, Professionalisation of educators
Presenting Author: Stefan Robbers, Open University Netherlands, Netherlands; **Co-Author:**Arnoud T. Evers, Open Universiteit, Netherlands; **Co-Author:**Marjan Vermeulen, Heerlen Open Universiteit, Netherlands

In current, fast changing and digitalizing society, students need up-to-date education that demands creativity and innovativeness from schools and teachers. Because teachers are key players in the educational system, teachers' innovative behavior (TIB) is essential. Research into TIB focusses mainly on scientific knowledge creation and less on providing teachers or managers more insights in their own practice. Therefor the aim of present research is to develop an instrument measuring TIB based on teachers' own perceptions. This leads to the main research question: "How should TIB be measured providing teachers and school managers insights in TIB?" This question will be answered by conducting a review of publications in which earlier scientific and validated instruments measuring TIB are categorized (Figure 1). The review showed that there are differences in the approach of TIB in scientific literature. For instance, some authors see IB as a single dimension construct where others see multiple dimensions. Items from existing questionnaires (extracted from the review) will be (re)formulated, merged, supplemented and discussed in focus groups of teachers with the goal to construct an instrument recognized by the target group itself. In the roundtable the newly developed instrument will be discussed concerning operationalization, face-validity and practical usability.

Sessions A 13

27 November 2019 11:15 - 12:45
Sweden (VSpa) - Table 6
Roundtable
Secondary education

Innovations in Leadership Development

Keywords: Innovations in education, Leadership development, Leadership styles, School Development, Secondary school education
Interest group: CLOUD 07 - Research impact on school development, CLOUD 12 - Leadership in Education
Chairperson: emanuele bardone, Estonia

School-university joint programme Future School – evidence-driven innovation in Estonian schools
Keywords: Innovations in education, Leadership development, Leadership styles, School Development
Presenting Author: Eve Eisenschmidt, Tallinn University, Estonia; **Co-Author:**Kairit Tammets, Tallinn University, Estonia; **Co-Author:**Kätlin Vanari, Tallinn University, Institute of Educational Sciences, Estonia; **Co-Author:**Reet Sillavee, Tallinn University, Institute of Educational Sciences, Estonia; **Co-Author:**Krista Haak, Tallinn University, Institute of Educational Sciences, Estonia; **Co-Author:**Valentina Paas, Tallinn University, Institute of Educational Sciences, Estonia; **Co-Author:**Jüri Käosaar, Tallinn University, Institute of Educational Sciences, Estonia; **Co-Author:**Ott Oja, Tallinn University, Institute of Educational Sciences, Estonia

There is continuous need to revise the ways of the school innovation considering the recent research knowledge. Dominant approaches like teacher leadership (Poekert, Alexandrou, & Shannon, 2016), co-creation of the new practices (Hansen & Wasson, 2016) and evidence-driven school development (Schildkamp, Smit, & Blossing) were used for designing school-university joint programme in Estonia. Supporting schools to use evidences to improve processes may turn these organizations into learning organizations, which are able to define and evaluate their own performance (Crick, Knight, & Barr, 2017). The aim of the 1-academic year joint programme Future School is to support the whole-school innovation by enhancing the teaching and learning culture with: 1) shared leadership creating conditions for teacher leadership, 2) school-university co-creation of new methodologies and 3) implementation of evidence-driven innovation for sustainable improvement of teaching practices.The discussion is organised around following questions:How leadership practices support innovation processes at school?How co-creation of the new practices is actualised in innovation process?How schools work with evidences in innovation process?Monthly reflections and interviews with team members at schools, and focus group interviews with university experts as data collection instruments were used. Empirical research results are used to validate the school-university joint programme and improve practices at school.

The changing role of the school leader: an international comparison
Keywords: Innovations in education, Leadership development, Leadership styles, Secondary school education
Presenting Author: Anje Ros, Fontys University of Applied Sciences, Netherlands; **Presenting Author:**Loes van Wessum, Windesheim Flevoland, Netherlands; **Presenting Author:**Leezan van Wijk, SRVO, Netherlands; **Co-Author:**Inge Andersen, Marnix Academie, Netherlands

In this session we start with a comparison between three national school leader profiles, the Australian Leadership profile (AITSL, 2014); the Ontario Leadership Framework of Canada (Institute for Educational Leadership, 2014) and the Dutch National Leadership Framework for school leaders (Anderson & Krüger, 2013). The Dutch framework for schoolleaders in secondary education will be revised by two of the presenters and a colleague in the fall of 2019. We present the audience the main differences and similarities between the profiles. Then we start a conversation with the audience about the central question: are the school leader profiles future proof? We ask the delegates in which way the role of the school leader has changed and will change in the future. After that we discuss about the core practices of school leaders and what kind of leadership core practices are the most important in the future.

Sessions A 14

27 November 2019 11:15 - 12:45
Lobby Room (VSpa)
Workshop
Higher education

Comparative judgement for assessing complex skills

Keywords: Assessment and evaluation, Competence-based education, Educational Technology, Innovations in education
Interest group: CLOUD 10 - Assessment

Assessing competences is not an easy endeavor. With comparative judgement reliable and valid assessment are easily obtained (Verhavert et al. 2017, van Daal et al., 2016). In this method, student works are presented pairwise to assessors. For each pair, assessors indicate which work is of higher quality. Because multiple assessors do so, the quality of the works can be calculated (Pollitt, 2012). D-PAC has conducted several studies on the learning opportunities of comparative judgement (www.d-pac.be). They showed that the method encourages learning when it is used for peer assessment. The comparison process fosters students to critically reflect on aspects to determine quality by means of the multiple exemplars. Additionally rich feedback data is offered to students (Van Gasse et al, 2017) (e.g. feedback on performances). This workshop introduces the rationale behind the method of comparative judgement. Also, participants will experience the method of comparative judgement from a teacher and a student perspective. Is it easy to compare the work of students? How do the results for students look like? Which feedback is presented to assessors? Finally, we want to discuss opportunities and pitfalls to implement the method in higher education.

Comparative judgement for assessing complex skills
Presenting Author: Sven De Maeyer, Antwerp University, Belgium; **Co-Author:**Roos Van Gasse, University of Antwerp, Belgium; **Co-Author:**Maarten Goossens, University of Antwerp, Belgium; **Co-Author:**Marije Lesterhuis, University of Antwerp, Belgium

Assessing competences is not an easy endeavor. With comparative judgement reliable and valid assessment are easily obtained (Verhavert et al. 2017, van Daal et al., 2016). In this method, student works are presented pairwise to assessors. For each pair, assessors indicate which work is of higher quality. Because multiple assessors do so, the quality of the works can be calculated (Pollitt, 2012). D-PAC has conducted several studies on the learning opportunities of comparative judgement (www.d-pac.be). They showed that the method encourages learning when it is used for peer assessment. The comparison process fosters students to critically reflect on aspects to determine quality by means of the multiple exemplars. Additionally rich feedback data is offered to students (Van Gasse et al, 2017) (e.g. feedback on performances). This workshop introduces the rationale behind the method of comparative judgement. Also, participants will experience the method of comparative judgement from a teacher and a student perspective. Is it easy to compare the work of students? How do the results for students look like? Which feedback is presented to assessors? Finally, we want to discuss opportunities and pitfalls to implement the method in higher education.

Sessions A 15

27 November 2019 11:15 - 12:45
Pirogov (Dorpat)
Workshop
Secondary education

Learning how to reconstruct dreams and evaluate their influence on realities

Keywords: Assessment and evaluation, Educational Effectiveness and quality of education, Innovations in education, Practice-based research (methodology)
Interest group: CLOUD 11 - Practice-based Research Methodology

To help making possible ‘meaningful learning in different settings’ is a challenging dream. The overall vision could be to “helping every learner develop as a whole person, fulfil his or her potential and help shape a shared future built on the well-being of individuals, communities and the planet.” (OECD, 2018). This ‘help’ can be implemented in various contexts of classrooms, schools, educational systems, with different actors involved. This workshop is devoted to help practitioners and researchers to reconstruct dreams (of themselves or of others, like governments) for change and improvement, or to create new, feasible, tangible dreams. These dreams consist of practical theories, each as the sum of hypotheses on how and why interventions (like ‘help’) can trigger desired change mechanisms and outcomes within certain contexts. Having made explicit desired (partly logic and causal) chains of intended activities, it delivers a framework for testing the hypotheses, to find out whether dreams produce(d) realities of meaningful learning, in what settings. The workshop is based on the different steps within the method of realist explanatory evaluation (Pawson & Tilley, 1997), as further developed for the Dutch Educational Ministry (Pater et al., 2012) and tested in evaluations of policy and practical interventions.

Learning how to reconstruct dreams and evaluate their influence on realities
Presenting Author: Henk Sligte, Novum Education Intermedia, Netherlands; **Co-Author:**Erkko Sointu, University of Eastern Finland, Finland

To help making possible ‘meaningful learning in different settings’ is a challenging dream. The overall vision could be to “helping every learner develop as a whole person, fulfil his or her potential and help shape a shared future built on the well-being of individuals, communities and the planet.” (OECD, 2018). This ‘help’ can be implemented in various contexts of classrooms, schools, educational systems, with different actors involved. This workshop is devoted to help practitioners and researchers to reconstruct dreams (of themselves or of others, like governments) for change and improvement, or to create new, feasible, tangible dreams. These dreams consist of practical theories, each as the sum of hypotheses on how and why interventions (like ‘help’) can trigger desired change mechanisms and outcomes within certain contexts. Having made explicit desired (partly logic and causal) chains of intended activities, it delivers a framework for testing the hypotheses, to find out whether dreams produce(d) realities of meaningful learning, in what settings. The workshop is based on the different steps within the method of realist explanatory evaluation (Pawson & Tilley, 1997), as further developed for the Dutch Educational Ministry (Pater et al., 2012) and tested in evaluations of policy and practical interventions.

Sessions B 1

27 November 2019 13:45 - 15:15
Baer (Dorpat) - Part 1
Poster Presentation
Primary education, Workplace learning

Early Childhood and Primary Education

Keywords: Beliefs and conceptions of learning, Continuing professional development in Teachers, Curricula, In-service Teacher Training, Mentoring, Motivation, Primary school education, STEM, Teaching approaches, Workplace learning
Interest group: CLOUD 01 - Teacher education, CLOUD 02 - Educators' professional development, CLOUD 03 - Strategies to improve teaching and learning environments
Chairperson: Robert Reuter, University of Luxembourg, Luxembourg

Primary school teachers’ understanding of science – should we modify the curriculum?

Keywords: Curricula, In-service Teacher Training, Primary school education, Teaching approaches
Presenting Author: Aigi Kikkas, University of Tartu, Estonia; **Co-Author:**Miia Rannikmäe, University of Tartu, Estonia; **Co-Author:**Regina Soobard, University of Tartu, Estonia

A key component of science education is understanding the nature of science. However, research shows that teachers have misunderstandings, or simplified views about science, which do not support the formation of up-to-date scientific perception in students. To further investigate such findings, a pilot study was initiated involving 10 primary school teachers and 25 pre-service primary teachers. The questionnaire for teachers contained six questions related with different aspects of the nature of science, e.g. the tentativeness of scientific knowledge, conceptual models of science, etc.Preliminary results show that both primary school teachers and undergraduate students hold a number of naive understandings about science. For instance, they lack knowledge about scientific models and scientific methods. Undergraduate students often show an insecure and contradictory understanding of scientific questions and actions. They are not able to distinguish scientifically correct standpoints from simplified opinions. This survey also pinpoints gaps in the knowledge of teachers and undergraduate students. Such results can be used in improve teacher education. Moreover, this study can be used to generate and conduct further surveys in the future.

Perspectives on the induction process - a qualitative study
Keywords: Continuing professional development in Teachers, In-service Teacher Training, Mentoring, Workplace learning
Presenting Author: Daria Rovan, Faculty of Teacher Education, University of Zagreb, Croatia

During the transition from their initial teacher education into working life in schools, the beginning teachers need personal, social and professional help that is usually provided by their mentor. Therefore, the aim of the research was to describe the induction phase combining different perspectives – beginning teachers', beginning mentors' and experienced mentors' perspectives – in order to recognize the needs of the beginning teachers and mentors, as well as the key aspects of the relationship between the mentor and the beginning teacher. Three focus groups consisting of beginning teachers, beginning mentors and experienced mentors were conducted. For the data analysis thematic analysis was used. Several themes emerged as especially important for mentors: the question of the responsibility, the definition of the role of the mentor, the expectations from the beginning teachers, methods for working with the beginning teacher (e.g. classroom observation, reflective questioning). The beginning teachers also emphasized the importance of the clear expectations from the beginning teachers, the quality of the relationship with the mentor and guidance through the induction process. The results of the research can be very informative for planning programs for supporting beginning teachers during the induction phase.

Engagement for learning physics: a qualitative study of students' perspective
Keywords: Beliefs and conceptions of learning, Motivation, Primary school education, STEM
Presenting Author: Daria Rovan, Faculty of Teacher Education, University of Zagreb, Croatia; **Co-Author:**Ema Petričević, Faculty of Teacher Education, University of Zagreb, Croatia

Physics is one of the subjects that includes content of different levels of abstraction and students experience learning activities in physics as interesting but at the same time difficult. Research has shown that engagement in learning activities is associated with many positive outcomes such as school achievement and motivation. According to contextual model of student engagement (Lam, Wong, Yang, & Liu, 2012) contextual determinants such as relationships with teachers, parents and students, and individual determinants such as student motivational beliefs significantly contribute to school engagement. Therefore, the aim of this study was to examine how well students can recognize different determinants of engagement in learning physics. Four focus group interviews were conducted with 8^{th}-grade students from two elementary schools. Thematic analysis was performed. The results of this research have shown that students are well aware of individual and contextual determinants of engagement in learning physics and that the different aspects of engagement are important for more successful and less successful students. It is expected that the findings from research can be used in further developing guidelines for more effective teaching of elementary school physics.

Sessions B 2

27 November 2019 13:45 - 15:15
Baer (Dorpat) - Part 2
Poster Presentation
Secondary education

Secondary Education

Keywords: Cognitive Skills & Development, Creativity, Educational Effectiveness and quality of education, Educational Policy, Knowledge Building and Development, Learning and Developmental Difficulties, Mathematics Education, Music & Arts Education, Problem Solving, Professional Development, Professional identity, Secondary school education, Special Educational needs, The role of research on learning and instruction in developing education systems, Well-being and engagement
Interest group: CLOUD 02 - Educators' professional development, CLOUD 04 - Improving learning and well-being, CLOUD 07 - Research impact on school development
Chairperson: Alexandra BADETS, France

'Moral distress in secondary school teachers'
Keywords: Professional Development, Professional identity, Secondary school education, Well-being and engagement
Presenting Author: Evelyne Depoorter, Howest, Belgium

*'Moral distress in secondary school teachers'*This ongoing qualitative research project aims to introduce and explore the concept of moral distress and moral resilience in education. The research starts from this central question: how can secondary school teachers grow from moral distress into moral resilience? Teachers learn to recognize and accept moral distress in their daily work and distinguish between other forms of stress with a view to quality retention. The starting point is the professional self-understanding of the teacher. The sources of moral distress and the resources of moral resilience in education are mapped out through literature studies, group discussions and in-depth interviews with secondary school teachers. A 'Situational questionnaire' will be developed to make moral distress discussible among teachers. The methodologies from the ESF project ‘Keep the Spirit' (within the care sector) are translated into education, so that there are tools to work with this theme within the school organization. Educational organizations, teachers and prevention services will be involved in the development of a network during the research period.

The expression of creative thinking components in the drawings of comprehensive school students.
Keywords: Creativity, Knowledge Building and Development, Music & Arts Education, Problem Solving
Presenting Author: Astrid Traagel, University of Tartu, Estonia; **Co-Author:**Irja Vaas, University of Tartu, Estonia; **Co-Author:**Krista Uibu, University of Tartu, Estonia

Supporting and developing creative thinking in comprehensive school is necessary for students to learn how to solve different problems and develop creative personalities. The expression of a student’s creative thinking can be influenced by environment, the organization of education, and one's age. With the aim of finding out how different components of creative thinking are manifested by 12-15-year-olds, students were asked to complete E. P. Torrance's creativity test. 510 students participated in the study. The variance analysis of test results showed that 12- and 15-year-olds had the lowest results while 14-year-olds had the highest results. In order to find effective ways to support students' creativity, correlations between four components of creative thinking were analyzed. The strongest positive relations were found between originality, fluidity and the flexibility of thinking. Knowing the students’ age, in which the use and the expression of creative thinking might be low or high, can help teachers to differentiate learning activities more consciously.

Collaborative visual research on the reform of junior high schools (age 12-14 years)
Keywords: Educational Effectiveness and quality of education, Educational Policy, Secondary school education, The role of research on learning and

instruction in developing education systems
Presenting Author: Leen Alaerts, UC Leuven-Limburg, Belgium; **Co-Author:**Ruth Wouters, UCLL, Belgium; **Co-Author:**Alice Dumon, UCLL, Belgium; **Co-Author:**Nick Goemaere, UCLL, Belgium; **Co-Author:**Anne Decelle, UC Leuven-Limburg, Netherlands

This collaborative research contributes to the discussion whether education in lower secondary schools (junior high school or middle school) should be comprehensive, rather than categorical. The rather loose educational reform in Flanders of 2019 insists on a more comprehensive approach of education. This project investigates five cases: five junior high schools who embedded educational practices towards a more comprehensive approach. Photovoice is chosen as the main data-collection methodology. In focus groups teachers and learners discuss their own photographs that visualize their teaching and learning environment. These data (photos and transcriptions of focus groups) were iteratively analyzed in combination with desk research in order to meet the following research question: which artefacts, processes and educational practices contribute to a successful junior high school? 'Successful' is thereby defined as a school (a) in which learners manage to achieve the prescribed learning outcomes; (b) in which learners and teachers develop a positive self-esteem (well-being) and (c) as a school that invests strongly in positive orientation of learners in their school curriculum. Preliminary results confirm that the educational reform towards a more comprehensive schools seems to correlate with positive students' wellbeing. Offering opportunities to enhance autonomous learning seems to be a crucial factor.

The factors that affect mathematical skill development in students with mild intellectual disability
Keywords: Cognitive Skills & Development, Learning and Developmental Difficulties, Mathematics Education, Special Educational needs
Presenting Author: Triin Kivirähk, University of Tartu, Estonia; **Co-Author:**Evelyn Kiive, University of Tartu, Estonia

Aim To find out the specific factors that should be taken into account when teaching mathematics to MID students at the second school level.Research questions- what is the relation between the general mental abilities, cognitive- and mathematical skills development in students with MID?- what are the difficulties these students face when learning mathematics?- which kind of assistance the students need for learning mathematics more effectively?Methods Mathematical performance test, cognitive skills test and Raven's Coloured Progressive Matrices Test were conducted in 70 MID students 11-13 years of age.Results- Strong correlation was found between the general mental abilities and the score of basic knowledge of numbers and computation in mathematical achievement test;- Development of cognitive skills is connected to the results in mathematics achievement test;- Students needed additional assistance in all mathematics tasks. Conclusions - Number magnitude and complexity of calculation in MID students differs significantly from students studying according the regular school program. - It is necessary for teachers to systematically develop MID students' cognitive skills in order to improve their mathematical skills according to relationships described in the study. - MID students need continuous assistance from the teacher when learning mathematics.

Sessions B 3

27 November 2019 13:45 - 15:15
Baer (Dorpat) - Part 3
Poster Presentation
Higher education, Lifelong learning, Vocational education

Teachers' Training and Professional Development

Keywords: Blended learning, Collaborative Learning, Continuing professional development in Teachers, Higher education, In-service Teacher Training, Knowledge Building and Development, Leadership development, Practice-based research (methodology), Professional Development, School Development, Web-Based Learning
Interest group: CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning, CLOUD 12 - Leadership in Education
Chairperson: Eve Eisenschmidt, Tallinn University, Estonia

The technological onion of MAES: a Teacher Training Course in active learning methodologies
Keywords: Blended learning, Continuing professional development in Teachers, In-service Teacher Training, Web-Based Learning
Presenting Author: Azenaide Abreu Soares Vieira, Federal Institute of Mato Grosso do Sul - IFMS, Brazil; **Co-Author:**Matheus Souza, Instituto federal de tecnologia e educação do Mato Grosso do Sul, Brazil

The research presents the digital tools integrated to the pedagogical practice during teacher training courses and analyzes which digital technologies have shown potential in education in the view of teachers in training. The study is justified by the need to design methodological strategies for integration of technologies as an instrument in the learning process. As instrument of data collection were used: logbook and survey questionnaires. The review of the literature was based on the study of the potential technological resources in the promotion of active learning and how technologies can be used as instruments of mediation in education. The research group were 14 professionals enrolled in 2017 in teacher training courses offered by the Federal Institute of Mato Grosso do Sul, Nova Andradina campus. The study made possible the creation of the MAES Technological Onion, formed by three layers that include: 1) standard tools used by teacher-trainers; 2) tools with potential for integration in the practice of Basic Education teachers; 3) tools suggested for future studies. The study reveals that tools are part of the culture of the professional in training, whether for communication or entertainment, tools such as facebook and WhatsApp, have greater potential for use in Basic Education.

Defining 'research competence for professional practice' in higher professional education
Keywords: Higher education, Knowledge Building and Development, Practice-based research (methodology), Professional Development
Presenting Author: Lisette Munneke, Utrecht University of Applied Sciences, Netherlands; **Co-Author:**pieter schilder, Hogeschool Utrecht (University of Applied Sciences Utrecht), Netherlands; **Co-Author:**Alma Mustafic, Hogeschool Utrecht (University of Applied Sciences Utrecht), Netherlands

This research is about different ways to define the role of research competence for professional practice during higher professional education. 23 bachelor- and masterprograms of an university of applied sciences were interviewed on the way they integrated research in their professional oriented programs. Results showed that bachelor- en masterprograms with a professional orientation see three possible functions of research competence: 1. research supporting professional action, 2. supporting the development of the reflective practitioner and 3. supporting innovation and change. Results showed also a tendency to emphasize category 2 and 3 and a difficulty in making concrete how research competency can improve the quality of specific professional products or actions. More knowledge is needed in ways of defining research competency inextricably linked to professional skills.

Headteachers and Teachers: Perceptions of Pedagogical Leadership in Particular Schools
Keywords: Collaborative Learning, Leadership development, Professional Development, School Development
Presenting Author: Danping Peng, Faculty of Education, Palacky University, Czech Republic; **Co-Author:**Štefan CHUDÝ, Palacky University, Czech Republic; **Co-Author:**Jiří Kropáč, Palacký University - Faculty of Education, Czech Republic

The role and importance of pedagogical leadership have been recognized in a number of research findings. It is important both for children and adults. In order to understand how headteachers and teachers in this descriptive research perceive the main features of pedagogical leadership in practice, a questionnaire survey was applied in five Czech schools. This questionnaire addresses eight dimensions of pedagogical leadership on a 9-point Likert scale from two different aspects: the importance and the evidence. Importance refers to the value given to the dimensions (and descriptors), and evidence refers to the achievement and existence. 39 headteachers and teachers participated in this research. The statistical analysis of research data revealed that, in most cases, the participative dimension of pedagogical leadership is considered as the most important dimension. Research confirms that pedagogical leadership should be a process of participation, learning and supporting that enhances the satisfaction of all the stakeholders.

Sessions B 4

27 November 2019 13:45 - 15:15

Baer (Dorpat) - Part 4
Poster Presentation
Higher education, Secondary education

Enhancing Metacognitive and Deep-level Learning Skills

Keywords: 21st century learning, Bilingual education, Cognitive Skills & Development, Collaborative Learning, Higher education, In-service Teacher Training, Inquiry learning, Instructional Design and Instructional Strategies, Meta-cognition and metacognive learning, Problem Solving, Self-regulation and self-regulated learning
Interest group: CLOUD 01 - Teacher education, CLOUD 13 - Starting Researchers
Chairperson: Joseph Kessels, Netherlands

CLICK- a photo documentation method to foster scientific inquiry amongst bilingual science students
Keywords: Bilingual education, Inquiry learning, Instructional Design and Instructional Strategies, Self-regulation and self-regulated learning
Presenting Author: Rohit Mishra, University of Oulu, Finland

In bilingual science classrooms, learners have to interpret the instructions continuously in their first language for understanding. This time taking process suppresses students' motivation of asking questions. This paper examines the use of photo documentation with a newly developed methodology named CLICK: Capture to Learn and Inquire for Collaborative Knowledge. The CLICK-method systematically, allows students to click photos during their activity based learning in science classrooms. Later, students use these photos to reflect in their preferred language and to discuss the activity in the language of instruction. It helps students in using their full repertoire of languages for the understanding of scientific content. The purpose of this research is to foster students' scientific inquiry and improve their knowledge retention. Participants were 250 middle school students (classes 6th-8th) from two schools of the Ballabgarh Block in Haryana State in India. The data collection consisted in a pre test and a series of post tests and retention tests in 6 sessions over 3 months. The results indicate that students improved in their retention tests. Additionally, students' active participation has also been observed during classrooms discussions. Implications for designing a framework for teaching science to bilingual students are discussed.

Regulation processes in ill-structured problem solving
Keywords: Collaborative Learning, Meta-cognition and metacognive learning, Problem Solving, Self-regulation and self-regulated learning
Presenting Author: Mari Ader, Welten Institute - Open University of the Netherlands, Netherlands; **Co-Author:**Jan van Bruggen, Open University, Netherlands; **Co-Author:**Marjan Vermeulen, Heerlen Open Universiteit, Netherlands

The goal of this research is to support students collaboratively solving ill-structured problems. We aim to develop instructional guidelines that support and elicit regulation in ill-structured problems and ultimately promote regulation skills that are transferable to other contexts.For a collaborative group to succeed, the problem solvers need to agree on what the problem is and how to solve it. In education, most problems students face have one single solution path. Most problems encountered in *real life* have different pathways and multiple possible solutions, such as design tasks. Collaborative problem solving of these so-called *ill-structured problems* is not linear, but an iterative and cyclical process in which the problem and the solution are constantly being reassessed. This process requires a considerable amount of regulation from the group, but little is known how to design an effective learning environment for developing these regulation skills. Therefore, an ill-structured design task was used to explore whether regulation prompts can support this process. Six experimental (with regulative prompts) and six control groups were used. Groups' conversations were qualitatively analysed based on a newly developed coding scheme. Detailed results based on the comparison of the two conditions will be presented at the conference.

Teacher´s competence to compose questions supporting students thinking skills in 21st century
Keywords: 21st century learning, Cognitive Skills & Development, Higher education, In-service Teacher Training
Presenting Author: Egle Säre, University of Tartu, Estonia

The aim of this study was to find out how experienced teachers compose questions for a planned group-discussion in order to support students reasoning skills. The aim was achieved with four research questions: (1) where teacher's skills to compose questions come from; (2) which materials teacher used to use in order to compose questions; (3) which questions teachers compose based on a text in order to develop students reasoning skills during group-discussion; (4) how teacher´s understand the function of questions. In this study participated 70 teachers, who attended in a pedagogical course. Results showed that teachers composed 61% questions which mainly guided to describe the situations in text, describe own opinion, to narrate or control the memory. Only 39% of questions had the potential to activate higher cognitive skills. Also 71% of teachers confirmed the fact that they had never studied how to compose questions.

Sessions B 5

27 November 2019 13:45 - 15:15
Baer (Dorpat) - Part 5
Poster Presentation
Higher education, Lifelong learning, Secondary education

Online and Hybrid Learning

Keywords: 21st century learning, Collaborative Learning, Cooperative learning, Educational Technology, Higher education, Innovations in education, Lifelong Learning, Professional identity, Professionalisation of educators, Self-regulation and self-regulated learning, Team Learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning
Chairperson: Max Aangenendt, The Hague University of Applied Sciences, Netherlands

Supporting collaboration as a study skill in an online course
Keywords: 21st century learning, Cooperative learning, Self-regulation and self-regulated learning, Team Learning
Presenting Author: Ingrid Koni, University of Tartu, Estonia

The collaboration skill is one of the 21st-century learning skills (Framework for 21st Century Learning, 2007). In recent years, the number of online courses has increased along with the development of technology. These courses challenge collaboration between participants who are not familiar with each other but work together towards the same learning goal. This study is about redesigning the online course on study skills to enhance collaboration between the participants by adding teamwork assignment. The aim was to find out student opinions about what developed in their collaboration as a study skill within the assignment and their suggestions on how to enhance the collaboration within the assignment. This action research involves 43 high school students participating in an online course on study skills in 2018. The data was gathered via a feedback questionnaire and was analyzed using qualitative content analysis. The results show that within the assignment, the participants had the opportunity to develop their leadership, communication, and compromising skills. To enhance the collaboration within the assignment, the participants brought out several technical suggestions, like random group making and providing personal information for contacting team-members.

Factors for succesful design and implication for hybrid learning environments
Keywords: Collaborative Learning, Higher education, Innovations in education, Lifelong Learning
Presenting Author: Maud Hendrickx, Fontys University of Applied Sciences, Netherlands; **Co-Author:**Maria Custers, Fontys, Netherlands

Dealing with complex social issues or 'wicked' problems requires different stakeholders to collaborate across practices. This boundary crossing requires certain skills for which students need to be prepared. According to Gulikers and Oonk, schools need to offer something else than content transferred in classroom training (2019). In their process of developing the required competences, students should undergo collective learning across boundaries. According to Alheit this *"requires a kind of paradigm shift in the organization of learning […] Schools must network with the community to which they relate […] They have to discover*

new locations for learning and invent other learning environments". (2009, p. 120). In the past 5 years Fontys University of Applied Science in the Netherlands invested heavily in setting up these new, 'hybrid' learning environments. In order to learn from these initial practices, a university-wide research project was initiated. The central research question was: Which factors are crucial in successful design and implementation of the hybrid learning environments of Fontys? To answer this question, five practices were studied and analysed crosscase, resulting in five design principles, accompanied by specific guidelines for implementation, categorized alongside the four design perspectives by Zitter (2010): artefacts, roles, space and time.

The student learning experience in hybrid learning configurations
Keywords: Cooperative learning, Higher education, Professional identity, Self-regulation and self-regulated learning
Presenting Author: Jan Kamphorst, Hanze University of Applied Sciences, Netherlands

Higher education institutions increasingly seek to develop learning environments or *hybrid learning configurations* (HLC's; Cremers, 2016; Wals et al., 2011), where students from different disciplines learn and work together with practitioners (companies or governmental institutions) and researchers. In our university of applied sciences (UAS) the learning environment is materialized in 'living labs' , 'professional innovation labs' or (in Dutch) 'innovatiewerkplaatsen' (IWP's). Our research is about the learning process of participants in IWP's (students, professionals, researchers and lecturers), consisting of self-regulated learning, authentic learning, development of professional identity and co-creation across borders (Cremers, 2016). The focus of the present study is on student learning: What are their learning experiences, and do they differ across IWP's? The development of the questionnaire, is based on extant literature about HLC's. The questionnaire will be administered among 200 students in IWP's. The data will be analyzed in SPSS (Factor Analysis, Reliability Analysis, Oneway Anova).

Howest EdHub: the interaction between didactics, learning space and technology
Keywords: 21st century learning, Educational Technology, Innovations in education, Professionalisation of educators
Presenting Author: Rina Dauwens, Howest, Belgium; **Co-Author:**Basiel Bonne, Howest, Belgium; **Co-Author:**Tijs Verbeke, Howest, Belgium

Our research intends to fill the gap between technological applications and education practice and thus aspires to create space for the work field and the students to explore and experiment. Therefore, we put the focus on the coherence between a thoroughly elaborated didactic scope, a flexible and inspiring environment/space and approachable technological adjustments to this space and the didactics. We investigate how we can achieve learning gains by making minimal interventions in the context or the learning process. We focus on in-class differentiation and investigate how the three cornerstones – learning space, didactics, ICT – can facilitate teachers in the adjustment of their existing practice. All of this is investigated in the field, in cooperation with our work field and our students. Because, they too want to experiment more with space and ICT and verify what works in their specific context. That's why we've decided to form 'Teacher Design Teams' in which the study department, the experts, the work field and the students work together to link space, didactics and technology efficiently and meaningfully to one another. In our session we want to share the current state of our research and our findings, and also discuss our course analysis instrument.

Sessions B 6

27 November 2019 13:45 - 15:15
Baer (Dorpat) - Part 6
Poster Presentation
Higher education

Assessment and Evaluation

Keywords: Assessment and evaluation, Blended learning, Cognitive Skills & Development, Collaborative Learning, Educational Attainment & Achievement, Higher education, Motivation, Peer Interaction / learning, Practice-based research (methodology), Professional Development, Self-regulation and self-regulated learning, Writing
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 10 - Assessment, CLOUD 11 - Practice-based Research Methodology
Chairperson: Wouter Smets, Belgium

The relationship between test-taking motives and high-stakes test results
Keywords: Assessment and evaluation, Educational Attainment & Achievement, Motivation, Self-regulation and self-regulated learning
Presenting Author: Gerli Silm, University of Tartu, Estonia; **Co-Author:**Olev Must, Institute of Education, University of Tartu, Estonia; **Co-Author:**Karin Täht, Institute of Psychology, University of Tartu, Estonia; **Co-Author:**Margus Pedaste, University of Tartu, Estonia

Low test-taking motivation is considered a possible threat to validity in low-stakes testing, but not as much in high-stakes testing. Nevertheless, the perception of a test and its value is subjective. University admission tests are generally regarded as high-stakes tests. We wanted to know whether test-taking motivation and test results are different depending on personal reasons for taking the test. We found that persons for whom the test was mandatory reported highest test-taking motivation, although interestingly received the lowest score compared to other groups. Also, the ones who were not sure whether they want to admit to university on the current year, received lower scores than the ones who were sure that they do. Our main conclusion is that even in tests that are considered high-stakes, test-taking motivation between individuals may differ depending on their personal motives for taking the test. For test-givers it illustrates the importance of educating test-takers and the importance of testing context – how and where the test is held.

Using e-portfolio to facilitate self-directed learning in community service learning.
Keywords: Blended learning, Collaborative Learning, Higher education, Self-regulation and self-regulated learning
Presenting Author: Melissa De Wilde, Ghent University, Belgium; **Co-Author:**Jo Tondeur, Ghent University, Belgium

This action research aims to explore the impact of an e-portfolio on the self-directed learning skills and motivation of students within the context of Community Service Learning. According to Jacoby (1996) Service-Learning is a form of experiential education in which students engage in activities that address community needs, together with structured opportunities for reflection designed to achieve desired learning outcomes. In the current case study, the e-portfolio Pebblepad has been integrated as a learning tool for a Blended Learning course called 'Educational Design'. The main aim was to engage learners through technology in civic inquiry, service, reflection and action. The teacher guided the group assignment by providing support through scaffolds and formative feedback integrated in the e-portfolio, so that students can gradually develop their self-directed learning skills. To gain insight into the perceptions of the involved students, three focus groups were conducted and analyzed. The research process and results of this action research will be presented in this poster.

Teaching French Through Dynamic Assessment: The Case Of The First Year Undergraduate Students F.L.E
Keywords: Assessment and evaluation, Cognitive Skills & Development, Peer Interaction / learning, Writing
Presenting Author: Sahraoui LAFRID, Université de Médéa, Algeria

It is well established that at the university, one forms the critical spirit, the spirit of analysis and the spirit of synthesis. What we advocate is a spirit of evaluation. The process we followed is part of a problematic of teaching French and especially in didactics of writing. We have implemented an experimental device in our teaching practice. This is the dynamic evaluation. This assessment allows the measurement of the initial level of achievement of a written production. And also the introduction of elements likely to help the subject, to modify his usual strategies involved in the realization of a failed written production. And especially the appreciation of how new strategies are involved. It's a four-phase experience that has lasted a whole year. We first submitted our sample audience to a pre-test, then we set up the training workshops for the dynamic evaluation and finally we closed the process with a final test of measurement and evaluation. Two questionnaires were used. If the methods that come out of the labs show their limits in natural learning, the dynamic assessment can fix it and allow foreign-language scriptwriters to have confidence in themselves, to become aware of their progress and to improve.

Building a bridge between relevance and rigor in graduation projects

Keywords: Assessment and evaluation, Higher education, Practice-based research (methodology), Professional Development
Presenting Author: Pieter Schilder, HU University of Applied Sciences Utrecht, Netherlands; **Co-Author:**Lisette Munneke, Utrecht University of Applied Sciences, Netherlands

In this research main theme is the balance between relevance and rigor when students are doing their undergraduate projects in the professional fields of business. The research shows that the professional field is asking for practice-based research that is usable and having actual impact. Rigor and relevance are not seen as two categories that can be assessed separately, but as mutually interwoven. For practice relevance comes first and rigor must fits this, dependent on the specific professional context of the undergraduate project. Professional programs can consider to change this in their ways of assessing students at the end of their studies.

Sessions B 7

27 November 2019 13:45 - 15:15
Baer (Dorpat) - Part 7
Poster Presentation
Higher education, Workplace learning

Initial Teacher Education

Keywords: 21st century learning, Competence-based education, Curricula, Educational Technology, Higher education, Initial Teacher Education (Pre-service), Innovations in education, Internships, Primary school education, Professional Development, Research-based learning, Workplace learning
Interest group: CLOUD 01 - Teacher education
Chairperson: Bert van Veldhuizen, Hogeschool van Amsterdam, Netherlands

Educational Videos on Subject Didactics for Future Primary School Teachers
Keywords: Educational Technology, Higher education, Initial Teacher Education (Pre-service), Primary school education
Presenting Author: Kristel Ruutmets, University of Tartu, Institute of Education, Estonia; **Co-Author:**Tiia Krass, University of Tartu, Institute of Education, Estonia

Classroom videos are considered to be a promising way to practise pre-service teachers' teaching competence and to ease the gap between teacher education and educational practice (Rayner & Fluck, 2014) in major (Nature Studies) and minor (English) subjects. The aim was to create Estonian-context educational videos on the didactics of Nature Studies and English for preparing primary school teachers. The focus was on the planning and development phases in the construction of the educational videos. First, general criteria for effective educational videos were determined based on the literature review. The criteria included e.g. content quality, learning goal alignment and various technical sides of video such as segmenting, signalling, volume and length (see e.g., Brame, 2016; Leacock & Nesbit, 2007; Logan & Mayer, 2018; Mayer & Moreno 2003). Then, the content of the videos and teaching methods were elaborated with two primary school teachers. The video of Nature Studies didactics focused on the lesson structure and teaching methods. The video of English didactics reflected the development of students' listening and speaking skills at the initial stage of learning English. The two 20-minute videos enable to combine theoretical knowledge and practical experience for systematic analysis of teacher competence.

Teaching Evidence-Based Subject Didactics in Teacher Education
Keywords: Competence-based education, Curricula, Higher education, Research-based learning
Presenting Author:ESTA SIKKAL, Tartu University, Estonia; **Co-Author:**Irja Vaas, University of Tartu, Estonia; **Co-Author:**Tiia Krass, University of Tartu, Estonia; **Co-Author:**Krista Uibu, University of Tartu, Estonia

For contemporary teaching, teachers need good knowledge of pedagogy, content of subject and teaching methodology and knowledge of assessment. Although subject didactics has become an independent research area with interdisciplinary dimensions, only very few studies focus on teaching subject didactics. With the aim of developing a theoretical model for systematic treatment of subject didactics, a scoping literature review was implemented for analyzing scientific literature. 25 articles were chosen out in different databases of the field of study. Data analyses revealed three domains of subject didactics: content knowledge, knowledge of subject didactics and knowledge of subject specific assessment. These domains included various components which were used for developing a theoretical model for teaching subject didactics for teacher education. The results indicate how to organize the courses of subject didactics at the universities.

Adapting teacher education to prepare for innovative schools
Keywords: 21st century learning, Curricula, Initial Teacher Education (Pre-service), Innovations in education
Presenting Author: Edwin Buijs, HAN University of Applied Sciences - Research Centre for Quality of Learning, Netherlands; **Co-Author:**Helma Oolbekkink-Marchand, Radboud University, Department of Teacher education & HAN University of Applied Sciences, Netherlands

Teacher education aims to prepare student teachers for a changing world. Increasingly, innovative schools call on teacher education programmes, indicating that they need student teachers who are prepared for the innovative practices in their schools and the changing role of the teacher. In the context of this study we aimed to gain insight in the perceptions of student-teachers who take their internship in innovative schools, and their teacher educators focusing on the congruence between school and teacher education institute. The main goal of this study was to gain insight in the similarities and differences in their perceptions on the necessary changes in a teacher education programme in order to prepare for innovative schools. Semi-structured interviews were conducted to gain insight in these perceptions. A qualitative analysis was conducted and both within and cross case analyses were used to gain insight in similarities and differences. Results indicate that the perceptions of students and teacher educators of the changes needed to prepare for innovative schools are predominantly similar and that in their perceptions, the best fit would be achieved if the organization of the teacher education programme itself would be arranged more similar to that of an innovative school.

The intended classroom management curriculum in student teachers' internship
Keywords: Higher education, Internships, Professional Development, Workplace learning
Presenting Author: Tom Adams, Fontys University, Netherlands; **Co-Author:**Bob Koster, Fontys University of Applied Sciences, Netherlands; **Co-Author:**Perry den Brok, Wageningen Univerisity, Netherlands

This study sets out to investigate the intended curriculum for the development of classroom management competencies (CMC during internship for fourth year student teachers in Dutch teacher education for secondary education. Research has shown that many beginning teachers are struggling with this competency, and various researchers ask for more attention for classroom management during teacher education.
So, the purpose of the present research is mapping the attention for CMC in the intended teacher education curriculum.
The main research question is: What does the intended school-based part of the curriculum concerning classroom management looks like? These questions were answered by searching for crucial CM curriculum topics in recent literature, analyzing the curriculum documents for the intended classroom management curriculum of a teacher educational program, and interviewing the teacher educators, who both designed and educating this program, about their ideas of all kind of aspects concerning the intended classroom management curriculum.
We have found that classroom management is more important in teacher education than earlier research might suggest. We also found that there seems to be a lack of attention in teacher curriculum concerning proactive and reactive classroom management strategies.

Sessions B 8

27 November 2019 13:45 - 15:15
Lithuania (VSpa)

EAPRIL Cloud Spotlight Symposium
Higher education

CLOUD 4&9 - From music & arts as multisensory experiences to innovation and well-being in education

Keywords: 21st century learning, Creativity, Culture and Education, Deep-level and profound learning, Higher education, Initial Teacher Education (Pre-service), Innovations in education, Music & Arts Education, Well-being and engagement
Interest group: CLOUD 04 - Improving learning and well-being, CLOUD 09 - Sounds & Arts in Transversal Learning
Chairperson: Kaarina Marjanen, Laurea UAS, Finland
Organiser: Zarina M. Charlesworth, Switzerland
Discussant: Hubert Gruber, Austria

Developing strategies to improve teaching and learning environments has a long tradition. Today, more than ever, including educator voices in the future of education is an imperative. Following up on exploratory research in this domain, our aim in this joint Clouds 4 & 9 Spotlight Symposium is to create a dialogue, as a synopsis of theory and practice, with meanings of music and other arts as experiences. In recent decades, the importance of practitioner research has increased significantly, connecting pedagogy with music and arts education, and other educational fields, naturally. In the context of these efforts, however, one finds but a few arts-based integrations whether from the field of music, fine arts, applied or performing arts, or modern digital art forms. In the same vein, the concept of well-being has been repeatedly discussed in connection with the development of learning and teaching processes, but in practice much of it has remained very fragmented.
Ways to connect with each other will be explored, providing access for innovations supported, deepened and widened by all the participants. They will benefit from individual spaces, to serve personal motivations and needs, and allowing for all levels from active involvement to just listening and following.

The Multisensory Musical Design (MMD). Humanities through Music and Arts for Higher Education
Presenting Author: Kaarina Marjanen, Laurea UAS, Finland

Wellbeing starts from the Artistic core explained by pre- and earliest postnatal multisensory sound experiences. The Multisensory Musical Design (MMD) is a metatheory currently under development. This theory is targeted to strengthen the position of the Arts in Education, with the comprehension of the meanings and reflections of the Arts at the societies, starting from higher education. The European Quality Framework (EQF), levels 6-7 serves as a general educational ground for the current theory, to reach the aims of the MMD, especially with a focus in the degree programs at the fields of social services and teacher training, starting from the so-called soft, human values. The comprehension of Arts experiences in everyday life will support these aims.
Phenomenological research philosophy with qualitative comprehension support us in confirming of the core concepts and strengthening the MMD theory design. This design will create insights to discuss with scientific research methods, deepening the comprehension of knowledge through The Arts. The main target of the research is set for raising the position of The Arts from the core of education in Western societies, supported by the general human laws, to benefit the society, starting from education.

Lesson Study: dialogue with music and arts study-specialization "Cultural Education"
Presenting Author: Hubert Gruber, Pädagogische Hochschule NÖ / University College of Teacher Education Lower Austria, Austria

The presentation gives an insight into student work in courses of the study-specialization "Cultural Education" at the University College of Teacher Education, Lower Austria. First, the program was started 2016 under the topic "Lesson Study: Music in Dialogue" to strengthen the collaboration between the teachers in Higher Education, mentors, primary teachers and primary teacher education students. In the last two years, the focus has increasingly turned to students in the field of "Cultural Education", where beside music also many other fields of art are included and using the project method in combination with that of Lesson Study presents an additional challenge. Through the dialogical-integrative linkage of elements of arts, practice and theory the work was equally successful. This applies to both the work of students and those with the children of school classes and the teachers in Higher Education. The results were exciting, interesting and often also surprising, both in terms of their theoretical and school-practical aspects, and especially in their connection with music and other forms of arts. This enabled to discover and to test innovative qualities for learning and teaching, not least through the collaborative form of Lesson Study. Some of these examples will be presented here.

21st century learningscapes: the roles of sensemaking and well-being
Presenting Author: Zarina M. Charlesworth, University of Applied Sciences & Arts Western Switzerland // HES-SO, Switzerland

Talk of a paradigm shift in education started a quarter of a century ago (Barr & Tagg, 1995; King, 1993) and called for a move towards something more learner-centered. To a certain extent, this has taken hold but does not sufficiently address the today's complexity. One of the major challenges faced by education today is the difficulty that instructional theorists, researchers, educational policymakers and practitioners face in transcending Industrial-Age mental models or mindsets about instruction" (Reigeluth, Beatty, & Myers, 2017, p. XIV). Coupled with this is the uncertainty felt by educators and students alike as the settings in which they are evolving change. Innovation is on everyone's lips but how should we go about it and how to keep the learner as the focal point all the while keeping the idea of both the learner and educator well-being in mind.
A series of World Cafés held on the subject of the future of education with educators coming from a variety of disciplines was the field for the results presented here. Interestingly the concepts of sensemaking and well-being were omni-present. The subsequent discussion will allow participants to explore some of these issues with a particular focus on music and arts education.

Sessions B 9

27 November 2019 13:45 - 15:15
Pirogov (Dorpat)
EAPRIL Cloud Spotlight Session
Workplace learning

CLOUD 5 - Forming and storming: Cloud-building activities for Cloud 5 (HRD and workplace learning)

Keywords: Corporate learning, Lifelong Learning, Organisational learning, Workplace learning
Interest group: CLOUD 05 - HRD & Workplace learning
Chairperson: Jorg Holle, Westfälische Wilhelms-Universität Münster, Germany
Chairperson: Arnoud T. Evers, Open Universiteit, Netherlands

CLOUD 5 - Forming and storming: Cloud-building activities for Cloud 5 (HRD and workplace learning)
Keywords: Corporate learning, Lifelong Learning, Organisational learning, Workplace learning
Presenting Author: Jorg Holle, Westfälische Wilhelms-Universität Münster, Germany; **Presenting Author:**Arnoud T. Evers, Open Universiteit, Netherlands

This cloud involves studies and projects related to Human Resource Development, corporate learning and training, formal, non-formal and informal learning at the workplace, and organisational learning as such. This could involve topics at the micro-level (e.g. specific training programmes, organisational learning projects and/or professional development of employees (conditions, processes, output and transfer), meso-level (the organisation as a whole) or macro-level (policy-related issues).
In this highly interactive HRD and Workplace Learning cloud invited session there are three main activities. First of all, we will give a short introduction about the topic of this cloud and its aims, for newcomers. After that, we will have the highly successful *speed dating* session in which those who have already been a member for some time (or have expertise in the topic of this cloud), can meet newcomers. Finally, we will brainstorm in subgroups about ideas for (the yearly)

cloud seminar in spring 2020. We will explore ideas for cooperation with other clouds in this regard, and discuss the place (and person?) who would like to organize it.

Sessions B 10

27 November 2019 13:45 - 15:15
Sweden (VSpa)
EAPRIL Cloud Spotlight Session

CLOUD 13 - Jump in!: round tables on research ideas and designs

Keywords: Doctoral education (PhD education), Organisation of educational research, Practice-based research (methodology), Training of young researchers
Interest group: CLOUD 13 - Starting Researchers
Chairperson: Pieter Seuneke, Aeres University of Applied Sciences Wageningen, Netherlands

CLOUD 13 - Jump in!: round tables on research ideas and designs
Keywords: Doctoral education (PhD education), Organisation of educational research, Practice-based research (methodology), Training of young researchers
Presenting Author: Wilbert van der Heul, Albeda, Netherlands

EAPRIL 2019 is the second year of Cloud 13: the 'starting researchers' cloud'. This cloud is meant to become a vibrant international network for starting, practice-based researchers (from all ages), in the field of (innovation in) learning (learning occurring in different contexts as well as at different levels).
In this Cloud 13 spotlight session, a series of round tables will be held. As this is an 'open session', starting practice-based researchers can 'jump in' and share, test and explore their current research ideas, ambitions and dilemma's with peers. The round tables are being supervised or guided by more experienced researchers from the EAPRIL network. The session offers participants a low threshold opportunity to explore and present their current research ideas, deepen their knowledge on practice-based research methodology as well as finding their way into becoming a practice-based researcher.

Sessions B 11

27 November 2019 13:45 - 15:15
Parrot (Dorpat)
EAPRIL Cloud Spotlight Session
Vocational education

CLOUD 6 - Semantic Relation between World of Work and World of Education – An Ontological Approach

Keywords: Artificial intelligence, Competence-based education, Curricula, Vocational education
Interest group: CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning
Chairperson: Fazel Ansari, Austria

CLOUD 6 - Semantic Relation between World of Work and World of Education – An Ontological Approach
Keywords: Artificial intelligence, Competence-based education, Curricula, Vocational education
Presenting Author: Marjan Khobreh, Vienna University of Economics and Business (WU), Austria; **Presenting Author:**Fazel Ansari, Vienna University of Technology and Fraunhofer Austria, Austria

The evolving and knowledge-intensive world of work (WoW) demands the employees who represent required knowledge, skill and competences (KSC) to perform assigned tasks over time. Naturally, the world of education (WoE) should supply KSCs demanded by WoW. Hence, KSC supplied by WoE and demanded by WoW is the melting point of these two worlds, which shapes the world of competence (WoC). The supply-demand is not always in balance, therefore, the WoW confront the under- and over-qualified job seekers. The supply-demand analysis occurs not only at the micro level (person-job fit), but also this analysis should conduct at a macro level, where education should meet the demands of a job. To respond to semantically relating WoW and WoE, and identifying WoC, the Job-Know Ontology is developed. The Job-Know Ontology provides the opportunity to analyze the imbalance problem of supply-demand at a macro level, where the states of KSCs in WoC are identified. This paper discusses the development methodology of the Job-Know Ontology, its super-concepts, and super-relations, and three spaces of demand, supply, and matching in order to deal with the imbalance problem.

Sessions B 12

27 November 2019 13:45 - 15:15
Estonia + Latvia (VSpa)
Case study
Higher education, Primary education

Instructional Programmes

Keywords: Collaborative Learning, Cooperative learning, Emotion and emotional development, Higher education, Innovations in education, Mathematics Education, Music & Arts Education, Social interaction
Interest group: CLOUD 04 - Improving learning and well-being, CLOUD 09 - Sounds & Arts in Transversal Learning
Chairperson: Kim Bellens, Karel de Grote Hogeschool, Belgium

A New Program Experience "Becoming Physician and Social Responsibility (BPSR)"
Keywords: Collaborative Learning, Cooperative learning, Higher education, Social interaction
Presenting Author: Sevim Bürge Çiftçi Atılgan, Hacettepe University Faculty of Medicine, Turkey; **Co-Author:**Meral Demirören, Hacettepe University Faculty of Medicine, Turkey; **Co-Author:**Pergin Atilla, Hacettepe University Faculty of Medicine, Turkey; **Co-Author:**Bülent Altun, Hacettepe University Faculty of Medicine, Turkey

Social responsibility in medicine discusses with the recognition of inequality and power inequalities and also interested in development society health. The graduates who complete medical education are expected to improve health of the individuals and society, to contribute to the needs of vulnerable groups and to take a role as leaders and transformers. Hacettepe University School of Medicine (HUSM) started the "Becoming Physician and Social Responsibility (BPSR)" new mandatory program for 1 year students which aims to improve awareness and sensitivity of social responsibility by planning and implementing a social responsibility project. Small groups consists of 12-13 students developed and implemented a social responsibility project under the guidance of the facilitator. In total, 36 social responsibility projects were implemented. The target groups of the projects were vulnerable people, healthy individuals, environment and stray animals. The BPSR implementation experiences revealed the importance of researching social responsibility perceptions of students, facilitators and directors in individual, professional and institutional contexts.

MusicMath Methodology: Teaching And Learning Mathematics By Playing Musical Instruments
Keywords: Emotion and emotional development, Innovations in education, Mathematics Education, Music & Arts Education
Presenting Author: Eric Roldan Roa, University of Tartu, Estonia. MusicMath, Mexico; **Co-Author:**Erika Roldan Roa, Music Math, United States; **Co-Author:**Aldo Antonio Martínez Chávez, MusicMath, Mexico

Mathematics are a powerful tool for describing the phenomena and situations we observe and live, including art. MusicMath was created by combining the minds of a mathematician and a music producer. The objective of this symbiosis of mathematical sciences and art is to make a math classroom more engaging,

interesting, and fun. The goal of the method is achieved by students when they play musical instruments once they understand key math concepts. For the last three years, MusicMath's methodology has been successfully implemented in elementary and secondary schools in one of two ways: full year companionship or periodic reinforcement workshops. Elementary students have shown that they can understand secondary math concepts when those concepts are explained through a musical instrument. This has proven that the question is not IF the children can understand more complex math, but rather how we can better guide and teach them so they can understand that math and apply it in their lives.

Sessions B 13

27 November 2019 13:45 - 15:15
Lobby Room (VSpa)
Case study
Higher education

21st Century Student Competences

Keywords: 21st century learning, Blended learning, Competence-based education, Curricula, Higher education
Interest group: CLOUD 04 - Improving learning and well-being
Chairperson: Robson Felix, Brazil

MindBusiness – Promoting higher education students' entrepreneurial mindset and agency
Keywords: 21st century learning, Blended learning, Curricula, Higher education
Presenting Author: Essi Vuopala, University of Oulu, Finland; **Presenting Author:**Tiina Salmijärvi, University of Oulu, Finland; **Co-Author:**Pirkko Siklander, University of Oulu, Finland, Finland; **Co-Author:**Niina Impiö, University of Oulu, Finland

Entrepreneurial skills, such as collaboration, self management and networking, are needed in future working life, and therefore entrepreneurship courses are providing in higher education all around Europe. However, these courses usually are about establishing a company and enhancing business thinking, not enhancing students' awareness of their potential as entrepreneur and use of entrepreneurial competencies other context. Mindbusiness project is aiming for promoting entrepreneurial mindset among the students in University of Oulu and Oulu University of Applied Sciences. The core idea of the project is to inspire students' entrepreneurial awareness, supporting their self-identification of their own potential and prompting their entrepreneurial capacity. In practise three multidisciplinary courses (altogether 15 credits) was developed and tested, and empirical data including questionnaires and student reflections was collected to get evidence how the studies affected to the students' entrepreneurial mindset. The courses were piloted during 2018 and they were attended by nearly 90 students. After the studies, students' awareness of their own potential as entrepreneurs increased, and that they could consider themselves as entrepreneurs in future. They also recognized that entrepreneurial competencies are valuable also in other field of working life. The results provide university teachers a practical example of enhancing students' entrepreneurial mindset.

Future work skills 2025 - participatory anticipation of competence
Keywords: 21st century learning, Competence-based education, Curricula, Higher education
Presenting Author: Anne Hakala, JAMK University of Applied Sciences, Finland; **Co-Author:**Ilona Laakkonen, JAMK University of Applied Sciences, Finland

The conversation about the future of jobs and skills is one of the most important in development of education. What kind of competence/professional skills will a higher education graduate have and need in 2025? What are the skills that will attract the employer, and what skills are needed for success? How can we anticipate future skills? JAMK University of Applied Sciences (JAMK) is in the process of reforming curricula and wants to engage the industry in the process of anticipating working life skills needed in 2025.
It is difficult to predict the future skills needed. We think the best result would be achieved by interactive discussion with students, alumni and different working life groups. Therefore, the goal was to find a suitable method to anticipate the future skills together. In addition to identifying future skills, the objective was to awaken participants to think in a future-oriented way in their decision-making processes.
In this presentation, we tell about the process of our future work. We compare the results of the different respondent groups, mirroring them with the existing foresight material. We also consider the impact of this kind of future work on the participants' decision-making.

Sessions B 14

27 November 2019 13:45 - 15:15
Krause (Dorpat)
Case study
Higher education

Strenghtening Practice-based Research Publications

Keywords: Educational Policy, Higher education, Knowledge Building and Development, Organisational learning
Interest group: CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning
Chairperson: Heikki Kontturi, University of Oulu, Finland

Developing Open Access Publishing Platform for Practise-based Research
Keywords: Educational Policy, Higher education, Knowledge Building and Development, Organisational learning
Presenting Author: Mauri Kantola, Turku University of Applied Sciences, Finland; **Presenting Author:**Ilkka Väänänen, Lahti University of Applied Sciences, Finland; **Co-Author:**Mervi Friman, Häme University of Applied Sciences, Finland; **Co-Author:**Jaana Lamberg, Häme University of Applied Sciences, Finland; **Co-Author:**Petri Lempinen, The Rectors' Conference of Finnish Universities of Applied Sciences Arene, Finland

We will introduce the development work of the foresight process of the Finnish UAS Journal. The UAS Journal online publication focuses on education, research and development activities in practice-oriented higher education as an open-access, free-of-charge online journal, published by the Rectors' Conference of Finnish Universities of Applied Sciences and has been financed by the Finnish universities of applied sciences since 2010.We organised a collaboration foresight learning café session as a part of a development process for the visiting editors and UAS journal editorial board to analyse the impact, benefits, reach and significance of networked open access practice-based publishing activities. The (foresight learning café) event was organised together with Demos Helsinki, a Nordic think tank specialised in strategic experiments, co-creation, and foresight established in 2005. Demos is a project based organisation with no political affiliations (Demos Helsinki, 2019).
The main trends for change were identified for the next 5–10 years.

Sessions B 15

27 November 2019 13:45 - 15:15
Finland (VSpa)
Workshop
Vocational education

To assess or not to assess! How to evaluate students' learning without testing.

Keywords: Assessment and evaluation, Higher education, Innovations in education, Vocational education
Interest group: CLOUD 10 - Assessment

Future learning within a more high tech and a more human (well-being directed) society will need to be more directed towards High Impact Learning that Lasts (HILL).In this workshop we start with a storytelling part in order to come to clear practice cases. A theoretical framework and tools are provided for further analysis of assessment practices. Through feedback dialogue cases will be analyzed further in order to provide insights in how to empower assessment as learning (AaL).An inventory of tips and tricks for strengthening Assessment as Learning in curricula that aim at high levels of High Impact Learning concludes this session.

To assess or not to assess! How to evaluate students' learning without testing.
Presenting Author: Filip Dochy, Academia Europeae - European Academy of Science, Qatar

Future learning within a more high tech and a more human (well-being directed) society will need to be more directed towards High Impact Learning that Lasts (HILL).In this workshop we start with a storytelling part in order to come to clear practice cases. A theoretical framework and tools are provided for further analysis of assessment practices. Through feedback dialogue cases will be analyzed further in order to provide insights in how to empower assessment as learning (AaL).An inventory of tips and tricks for strengthening Assessment as Learning in curricula that aim at high levels of High Impact Learning concludes this session.

Sessions C 1

27 November 2019 15:45 - 17:15
Struve II (Dorpat)
EAPRIL Spotlight Symposium
Higher education, Vocational education

Video Supported Collaborative Learning: insights in the experiments of ViSuAL-project.

Keywords: Collaborative Learning, Continuing professional development in Teachers, Higher education, Knowledge Building and Development, Research-based learning
Interest group: CLOUD 01 - Teacher education
Chairperson: Margus Pedaste, University of Tartu, Estonia
Discussant: Frank De Jong, Netherlands

The symposium aims to identify and discuss perspectives and possibilities of Video Supported Collaborative Learning in educational systems. In teacher education there is a lack of a workable pedagogy for the use of video tools to support collaborative learning, knowledge building. A way to become knowledge competent in professional development as well as to prepare students for a sustainable knowledge-based economy and society. The teacher education (TE) and training are not providing adequate pedagogical and technical competence to use the video tools for collaborative learning and knowledge building.
One of the aims of VISUAL, is to develop, test, validate practical pedagogical models and practices for video-supported collaborative learning (VSCL) first of all in the teacher education and teacher professionalization (primary, secondary and VET education)What are the lessons learned from a first cycle of research and experimentations in the framework of the Visual project. What technology and pedagogy works in the classroom?
In the experiments higher education institutes and companies work together. The results of a selected number of in total 21 experiences will be presented for opening a conversation about VSCL-model. The symposium has an interactive plenary and structured-poster format with discussant.

Video recording to enhance reflection, collaborative learning and knowledge building (NL)
Presenting Author: Marije Bent, Aeres Hogeschool Wageningen, Netherlands; **Presenting Author:**Narda Tiebosch, Aeres Applied university Wageningen, Netherlands

The experiment aims to create more understanding how the role of the teacher trainer enables more Video Supported Collaborative learning during lessons about pedagogy in relation with the theory of collaborative learning. Participants concern teacher-students in the domain of Consumption techniques in the bachelor teacher education in the Netherlands. the environment for recording their lessons in practice is Iris Connect environment. The collaborative conversations took place face-to-face and in the virtual Knowledge Forum.The second experiment aims to improve the reflection skills of students (who study for teacher in secondary vocational education) through peer feedback and showing genuine authentic situations. Participants concern teacher-students in the domain of Consumption techniques in the bachelor teacher education in the Netherlands. the environment for constructing narrative videos of their practical experience the is EdVidsto environment. The collaborative conversations took place face-to-face and in the virtual Knowledge Forum. See general abstract for theoretical background.

Collaborative video problem-solving in primary education (P)
Presenting Author: Jose Ramos, University of Evora, Portugal; **Co-Author:**Rui Espadeiro, Universidade de Évora, Portugal

The experiment focusses on the investigation of collaborative video-problem solving as an innovative approach student centred which intends to develop collaborative learning skills and 21 century skills as p.e., search and select information, critical thinking and problem solving. The video prototype was used to present the educational scenario of the problem and to identify sources of information that the students tried to enrich with suggestions of their own. Data from the experiment was gathered through classroom observations (video recording some activities) and interviews. Researcher notes were used for classroom events and reflections on classroom practices.The preliminary results of the experiment show that this approach increased student's engagement and collaborative learning, skills for search and selection of information, but also motivation, responsibility and autonomy.

Collaborative annotated feedback on video-recorded teaching practices in vocational education (CH)
Presenting Author: Alberto Cattaneo, Swiss Federal Institute for Vocational Education and Training, Switzerland

The experiment focusses on the enhancement of reflective skills among in-service vocational teachers, and the betterment of teaching practice through collaborative peer-to-peer and tutor's feedback on video-recorded teaching practices.An iterative intervention was conducted and lasted four semesters, first observing unknow teachers, then peer teachers and finally teachers' own teachers teaching practices.The study took place within the vocational teacher-training education program at the Swiss Federal Institute for Vocational Education and Training and involved 36 in-service teachers. Preliminary results show that teachers in the video-annotation condition evaluated the training experience in a very positive way, witnessing its general usefulness, its usefulness for improving teaching practice, and for improving reflective capacity

Experiments in Estonia and Finland in using vídeo-diaries and vídeo observations
Presenting Author: Sirpa Laitinen-Väänänen, JAMK University of Applied Sciences, Finland; **Presenting Author:**Margus Pedaste, University of Tartu, Estonia; **Co-Author:**Eila Burns, JAMK University of Applied Sciences, Jyväskylä, Finland; **Co-Author:**Liina Lepp, University of Tartu, Estonia

The experiment of Tartu (Estonia) concerns to find out how the video diary format suits the students for reflection and also for learning from each other´s experience. The experiment was conducted with bachelor level 2nd year teacher-students on "Observation and Pedagogical Practice" course. The purpose of the experiment of Jyäskylä (Finland) was to explore innovative approaches for enhancing collaborative learning in music education. The aim of this study was to explore how video-observations support collaborative learning in music teaching from a music teacher's perspective.The theoretical background is described in the general abstract of symposium and is similar for all the experiments in the ViSuAL-project.Video-diaries enabled students to practice the creation of videos, oral reflection and widened the knowledge horizon of future teachers. video-observations in music education is a powerful tool to offer the music students possibilities for time and place-independent collaboration.

Sessions C 2

27 November 2019 15:45 - 17:15
Baer (Dorpat)
Present & Discuss
Higher education, Lifelong learning, Primary education

Teachers' Beliefs and Conceptions

Keywords: Beliefs and conceptions of learning, Beliefs and conceptions of teaching, Continuing professional development in Teachers, Diversity, Equality / Education for All, In-service Teacher Training, Instructional Design and Instructional Strategies, Primary school education, Professional Development, Self-efficacy, Teaching approaches
Interest group: CLOUD 01 - Teacher education, CLOUD 08 - Diversity & equality in different contexts
Chairperson: Pieter Seuneke, Aeres University of Applied Sciences Wageningen, Netherlands

Teachers' perceptions of differences between students and adjustment to diversity in the classroom
Keywords: Beliefs and conceptions of learning, Diversity, Equality / Education for All, Teaching approaches
Presenting Author: Karin Diemel, Fontys University of Applied Sciences, Netherlands; **Co-Author:**Linda van den Bergh, Fontys Opleidingscentrum Speciale Onderwijszorg, Netherlands; **Co-Author:**Yvette van Cleef, Driegang, Netherlands

The current Dutch policy is aimed at enrolling students in mainstream education, whenever possible. As a result, diversity in education is growing (Inspectorate of Education, 2016). Furthermore, schools strive for appropriate education for each individual student more and more. Therefore, the desire and necessity to tune in to differences between students adequately is greater than ever. In all educational contexts, this imposes a big challenge for teachers resulting in a need for professional development (Van Casteren et al, 2017). The research presented in this contribution was studied in the context of a larger research project. The project focuses on fostering in-service teachers' professional development by developing a palette of professional development activities. A qualitative study was conducted, that included interviews with 30 teachers and observations in their classes. The main finding is that the way teachers perceive student characteristics and talk about differences between students differs greatly among teachers. Their adjustment to diversity in their classroom is related to the developmental goals of students, to their statements about characteristics of students, and to the language they use in their descriptions of students. Reflections on these findings as a meaningful starting point for professional development will be discussed.

Teachers' beliefs about differentiation
Keywords: Beliefs and conceptions of teaching, Equality / Education for All, Instructional Design and Instructional Strategies, Primary school education
Presenting Author: Marijke van Vijfeijken, HAN University of Applied Sciences, Netherlands; **Co-Author:**Eddie Denessen, Radboud University, Netherlands; **Co-Author:**Tamara van Schilt-Mol, Hogeschool van Arnhem en Nijmegen, Netherlands; **Co-Author:**Ron Scholte, Radboud University, Netherlands

Teachers use differentiation in the classroom as a tool to address the diversity in order to achieve optimal learning opportunities for all students. Despite strong evidence to the view that ability grouping as a differentiation strategy promotes unequal learning opportunities, this differentiation strategy is often used in primary schools in the Netherlands. To study the influence of teachers' beliefs about differentiation on their practice, this study is focused on differences in beliefs between teachers in primary schools who apply ability grouping and teachers who do not apply ability grouping. A large-scale questionnaire research is conducted on a sample of 294 primary education teachers. The findings show three differentiation dilemmas among teachers. (1) The compensation dilemma: Compensate students who get less support from home or evenly distributing support? (2) The outcomes dilemma: the learning outcomes may continue to diverge or must not go too far apart? (3) The grouping dilemma: Is homogeneous grouping good for self-confidence or is it stigmatizing? Teachers who apply ability grouping do not differ significantly in their beliefs then teachers who do not apply ability grouping. For optimizing learning opportunities for all students, a dialogue is needed about differentiation beliefs and consequences for differentiation practices.

Determining the Meaning of Teacher Ownership of an Education through Science Teaching Approach
Keywords: Continuing professional development in Teachers, In-service Teacher Training, Professional Development, Self-efficacy
Presenting Author: Ana Valdmann, University of Tartu, Estonia; **Co-Author:**Miia Rannikmäe, University of Tartu, Estonia; **Co-Author:**Jack Holbrook, University of Tartu, Estonia

The study puts forward a meaning for the expression 'teacher ownership', basing this on an internalisation of an appropriate philosophy, an interrelated, but relevant teaching approach and the effective dissemination of that 'owned' to others. Such teacher ownership is distinguished from self-efficacy, as well as such terms as 'a sense of ownership' and towards 'teacher ownership'. Based on the meaning indicated, valued indicators for determining the operational effectiveness of the intended teaching, are derived phenomenographically to give categories of teacher ownership. These teacher ownership categories are identified, based on outcomes from an action research follow-up to a longitudinal continuous professional development programme (CPD), within which a philosophy for establishing the intended goals of science education is introduced. On which seven dimensions of teacher ownership variation are derived. These variations are used to form the basis for identifying three distinct categories of teacher ownership, labelled as: emotional, experiential and paradigmatic. These categories are described and the type and level of teacher ownership associated with each discussed.

Sessions C 3

27 November 2019 15:45 - 17:15
Struve I (Dorpat)
Present & Discuss
Higher education, Secondary education, Vocational education

Assessment and Evaluation A

Keywords: Assessment and evaluation, Continuing professional development in Teachers, Economy education, Higher education, Practice-based research (methodology), Professional Development, Project-based learning, Secondary school education, Vocational education
Interest group: CLOUD 01 - Teacher education, CLOUD 10 - Assessment
Chairperson: Janine Haenen, The Hague University of Applied Sciences, Netherlands

Using Peer Assessment to Predict Group Achievement
Keywords: Assessment and evaluation, Economy education, Higher education, Project-based learning
Presenting Author: Ning Ding, Hanze University of Applied Sciences, Netherlands; **Co-Author:**Jan Liefers, Hanze University Groningen. University of Applied Sciences, Netherlands

Group project work is widely adopted in higher education. However, how to identify hitchhikers and how to provide fair scores to all group members is a difficult task. Peer assessment has been demonstrated to be an objective and feasible method. The current research intends to investigate the relationship between peer-assessed contribution and the group performance, and identifies the best timeslot to help low-achieving groups through the lens of group members' contribution. 165 first-year Bachelor students from 30 groups at a Dutch university of applied sciences have been sampled. They work on a virtual business project within five weeks. Students need to assess their group members' contribution globally and produce a mark allocation to reflect at least three levels of contribution. It is found that above-average achieving groups tend to have members that consistently contribute to the project. In comparison with individual contribution, group-level contribution is more important. We also notice that for a five-week group project, week 4 is a crucial time. Students' peer assessment in this week is significantly related to their final group project achievement. Based on empirical analysis, this research sheds light on team pedagogy and assessment in group work.

Formative Assessment Practices of Secondary School teachers: the use of the FA-Cycle.
Keywords: Assessment and evaluation, Continuing professional development in Teachers, Professional Development, Secondary school education
Presenting Author: Marijke Veugen, Wageningen University and Research Centre, Netherlands; **Co-Author:**Judith Gulikers, Wageningen University, Netherlands; **Co-Author:**Perry Den Brok, Wageningen University and Research Centre, Netherlands; **Co-Author:**Liesbeth Baartman, Utrecht University of Applied Sciences, Netherlands

In a formative assessment (FA) learning network 94 secondary school teachers of 13 different Dutch schools are developing their FA practice using the FA-cycle as a framework. The FA-cycle shows five phases, and their alignment, of the ongoing FA process. In this study teachers' FA practices have been investigated to answer the question: How do secondary school teachers use the FA-cycle, including its practices and alignment between the five phases, in their classroom? Data were collected using mixed methods, including a teacher- and student-questionnaire, classroom observations and teacher interviews. Results show that teachers generally use phase one and two the most and need to develop phase three, four and five. Additionally, using the phases in alignment seems still a challenge. Results also show differences in FA practices between beginner, intermediate and more advanced teachers. The teachers will keep on participating in the FA learning network to develop their FA practice and future research will further investigate this development.

Teachers' formative assessment activities in vocational education
Keywords: Assessment and evaluation, Continuing professional development in Teachers, Practice-based research (methodology), Vocational education
Presenting Author: Liesbeth Baartman, Utrecht University of Applied Sciences, Netherlands; **Co-Author:**Machiel Bouwmans, Universiteit Utrecht / Hogeschool Utrecht, Netherlands; **Co-Author:**Barbara Weijering, Universiteit Utrecht / Hogeschool Utrecht, Netherlands; **Co-Author:**Judith Gulikers, Wageningen University, Netherlands

Research on formative assessment (FA) shows potential benefits for student learning, but the teacher has a crucial role in realizing this potential. A recent review (Gulikers & Baartman, 2017) identified teacher FA activities in the classroom in 5 phases of the FA-cycle. This review also identified a gap in existing research: teacher FA activities in vocational subjects. Therefore, we explored and characterized nine vocational subject teachers' FA activities as part of a large professionalization project – the FA learning network. Data were collected as part of the learning network activities: classroom observations, questionnaires and lesson descriptions. Also, all nine teachers were interviewed. Results show vocational subject teachers use many informal FA activities, like observations and asking questions during students' practical work. The teachers' FA activities could be characterized as mostly comprising phase 1-2-3 activities of the FA-cycle, focusing on clarifying learning goals, gathering information about student learning and analyzing this information. Typical for vocational subject teachers seems to be the fact that they do not use "standard" methods books, but are used to developing their lesson series themselves and therefore experience the freedom and expertise to do so and incorporate FA activities.

Sessions C 4

27 November 2019 15:45 - 17:15
Lobby Room (VSpa)
Present & Discuss
Higher education, Primary education

Deep-level and Profound Learning Approaches

Keywords: 21st century learning, Beliefs and conceptions of learning, Deep-level and profound learning, Inquiry learning, Instructional Design and Instructional Strategies, Professional Development, STEM, Training and Development
Interest group: CLOUD 01 - Teacher education, CLOUD 03 - Strategies to improve teaching and learning environments
Chairperson: Jenni Koponen, Metropolia University of Applied Sciences, Finland

Epistemically tuned-in?
Keywords: 21st century learning, Beliefs and conceptions of learning, Deep-level and profound learning, Instructional Design and Instructional Strategies
Presenting Author: Tore Ståhl, Arcada University of Applied Sciences / University of Tampere, Finland

Existing research indicates that students' deep learning does not evolve as expected within higher education. Further, during the past decades, both parents and educators have expressed concern about the googling attitude among students.The current study explored the so-called epistemic beliefs of new students representing fifteen study programmes. The results reveal significant differences in the students' epistemic mind-sets across the study programmes although, at the time of data collection, they had not yet been exposed to any kind of influences at their study programme or the university. This raises questions such as: Why do the epistemic mind-sets differ? Have the students "tuned in" their epistemic mind-sets appropriately in relation to the prevailing, discipline-specific epistemology?This paper attempts to respond to the questions by approaching the issue from several perspectives. Does the googling attitude include a change in the way students view knowledge and learning, so-called epistemic beliefs? Should educators and educational organisations pay more attention to the epistemic mind-set of students, and could this information contribute to the development of such deep learning approaches that are expected within higher education?

Success factors for meaningful reflection in engineering, science and technology study programs
Keywords: 21st century learning, Professional Development, STEM, Training and Development
Presenting Author: Kariene Woudt-Mittendorff, Saxion University of Applied Sciences, Netherlands; **Co-Author:**Annedien Pullen, Saxion University of Aplied Sciences, Netherlands

Being able to reflect is an important skill for students in higher education, also for students in engineering, science and technology programs (Ryan, 2013). Students and teachers within these fields are, however, not always naturally motivated or able to integrate reflective activities easily in their everyday practice. Reflection is often seen as a vague subject, or the way reflection is integrated in education is too focused on language. How can we design a better approach for reflection that suits students and teachers in engineering, science and technology programs? The research presented here focuses on three study programs (Industrial Design Engineering, Engineering Physics and Civil Engineering) who piloted different activities to improve reflection in their curriculum. The results show different success factors for improving reflection within engineering, science and technology programs. Design criteria focus for example on establishing a clear goal or vision towards reflection (within the teacher team) for example, but also on improving reflection on curriculum level (by means of a learning line). Also, the research shows the importance of guiding skills of teachers and the need teachers address in terms of professionalization.

Specialised STEM Providers in Schools – An Evaluation
Keywords: 21st century learning, Deep-level and profound learning, Inquiry learning, STEM
Presenting Author: Dianne Aylward, Queensland Department of Education, Australia

The STEM Horizons for High Achievers program is a collaborative venture between Moreton Bay, Brisbane Urban, and Toohey Forest Environmental Education Centres and SPARQ-ed. The program provides authentic opportunities to actively engage students in real world STEM experiences alongside experts and professionals, making connections to possible future STEM careers. This research project aims to evaluate the STEM Horizons for High Achievers program, particularly in regards to student engagement in STEM, awareness of future STEM pathways and contribution to the educational community. The data reveals that the program increased student knowledge and understanding of STEM and well as student awareness of STEM careers and futures. Teachers and students identified opportunities, resources and facilities in this program that are not ordinarily available to them in classrooms as essential. Parents, teachers, partners and students believe this program to be valuable and all are interested in future participation. This study has implications for STEM field trips and immersion programs, STEM classroom learning and future program evaluation processes.

Sessions C 5

27 November 2019 15:45 - 17:15
Krause (Dorpat)
Present & Discuss
Higher education, Workplace learning

Workplace Learning

Keywords: Beliefs and conceptions of learning, Beliefs and conceptions of teaching, Collaborative Learning, Diversity, Higher education, Peer Interaction / learning, Practice-based research (methodology), Professional Development, Workforce diversity & equality, Workplace learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 08 - Diversity & equality in different contexts
Chairperson: Sevgi Turan, Hacettepe University Faculty of Medicine, Turkey

IMPROVING WORK-LIFE LEADERSHIP WITH VIDEO REFLECTIONS – MANAGING YZ-GENERATIONS
Keywords: Collaborative Learning, Peer Interaction / learning, Practice-based research (methodology), Workplace learning
Presenting Author: Elina Vaara, Jyvaskyla University of Applied Sciences, Finland; **Co-Author:**Marianne Ekonen, JAMK University of Applied Sciences, Finland; **Co-Author:**Anita Hukkanen, JAMK University of Applied Sciences, Finland; **Co-Author:**Hilkka Heikkilä, JAMK University of Applied Sciences, Finland; **Co-Author:**Mirva Leppälä, JAMK University of Applied Sciences, Finland; **Co-Author:**Eila Burns, JAMK University of Applied Sciences, Jyväskylä, Finland; **Co-Author:**Sirpa Laitinen-Väänänen, JAMK University of Applied Sciences, Finland

Videos have been proposed to promote reflective processing that may result in changing one's communicational and interaction practices in social situations. Therefore, videos may be utilized to support recognition of individual attitudes behind the leadership practices in work-related social situations with different generations.
In this still ongoing study, restaurant and hospitality entrepreneurs in central Finland used videos to capture everyday social interaction management situations in order to reflect on their leadership practices with the yz-generation employees. Entrepreneurs analysed and reflected on their own and peers' videos, as well as shared their reflections in small groups facilitated by the team leaders. Thus, they co-constructed the understanding of leadership stimulated by the recordings. In reflections, they focused on leadership communication and interaction practices. Entrepreneurs were asked to fill in pre- and post-surveys to assess the change of their practices and attitudes in the company. Initial findings revealed that recording and analysing one's management practices in structured and supported way could be a powerful tool in changing leadership practices in companies. This collaborative multiorganizational approach seems to support the understanding of generational differences and, thus, promote the development of leadership styles as well as general well-being at work.

School workforce equality and diversity and the relationship to the promotion of meaningful learning
Keywords: Beliefs and conceptions of learning, Beliefs and conceptions of teaching, Diversity, Workforce diversity & equality
Presenting Author: Anthony Thorpe, University of Roehampton, United Kingdom

The paper explores the relationship between school workforce equality and diversity and the promotion of meaningful learning in order to identify the implications for practice and research. Meaningful learning rejects rote learning and promotes a relational understanding of knowledge and concepts with implications for practice improvement in the area of holistic approaches to education. This recently completed research project adopted a qualitative methodological approach involving semi-structured interviews with senior post holders in state and private schools and associated support organizations in England. The interview method enabled an understanding of the perspectives and practices of participants in their settings. Content and thematic analysis techniques were used to identify themes emerging from the participants' accounts. The findings included the insights that there are differing views among practitioners about what counts as meaningful learning and how holistic education can be achieved with participants feeling constrained in developing some ideas. A number of implications for policy and practice at the school and national level arise including proposals for forms of professional development that help practitioners to be aware of how they might practice in an authentic, holistic manner to promote human flourishing in all schools.

Collaborative learning, researching and working: defining and positioning Professional Workplaces
Keywords: Collaborative Learning, Higher education, Professional Development, Workplace learning
Presenting Author: Michel Duinkerke, Fontys Hogescholen, Netherlands; **Presenting Author:**Miranda Snoeren, Fontys University of Applied Sciences, Netherlands

Complex societal challenges demand cross-sectoral collaborations between governments, public-service organisations and higher education. Fontys University of Applied Sciences encourages new ways of collaborating with partner-organisations in authentic environments. In our Professional Workplaces (PW) professionals, students, lecturers and other stakeholders learn, research and work together to deliver services, improve professional practice and are physically located within public-service organisations.The concept of PW has not yet been described and other related concepts are mainly expressed from a single perspective e.g. learning or pedagogy. A study was therefore undertaken to comprehensively explore what PW's are and how they relate to other cross-sectoral collaborations. A study of English and Dutch literature on cross-sectoral collaborations was combined with visits to good practices and interviews with stakeholders within PW-related collaborations. This resulted in a definition for PW that embraces an holistic perspective on cross-sectoral collaborations. It contains nine characteristics and a theoretical model with six mutually related components that describe the learning, researching and working in PW's.This definition and model enable the revelation of similarities and differences with other concepts related to cross-sectoral collaboration, research into the functioning of PW's, and can be used as a tool to support quality development and professionalization within PW's.

Sessions C 6

27 November 2019 15:45 - 17:15
Lithuania (VSpa)
Present & Discuss
Higher education

Higher Education and its Professionalisation

Keywords: Competence-based education, Distance Education, Higher education, Lifelong Learning, Motivation, Professional Development, Self-regulation and self-regulated learning
Interest group: CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning
Chairperson: Niek van den Berg, Aeres University of Applied Sciences Wageningen, Netherlands

Challenges of running simultaneously a Bachelor programme in face-to-face and at a distance
Keywords: Competence-based education, Distance Education, Higher education, Professional Development
Presenting Author: Barbara Class, University of Geneva, Switzerland; **Co-Author:**Sonia Halimi, University of Geneva, Switzerland

Offering a Bachelor programme, in a competence-oriented format, simultaneously in face-to-face and at a distance, is challenging for the design of both versions. At the implementation level, it means handling at the same time teachers' course design orientations based on common learning outcomes and complying with institutional requirements of a traditional face-to-face university setting. From a theoretical point of view, the adaptation of the course organisation relies foremost on the theory of transactional distance and digital skills. The research follows a qualitative approach and data consist of reports written by the distance learning coordinator resulting from interviews and work undertaken with 10 teachers and other stakeholders over two years together with documents produced during the entire period. Following a pragmatic analysis, findings address issues related to i) teachers' professional development; ii) content

adaptation and pedagogical strategy refinement to answer students' needs, in face-to-face and at a distance; and iii) quality improvement of the face-to-face programme, particularly in terms of active pedagogies and alignment between learning outcomes and evaluation.

Research on the learning history and learning motivation in the Internet University
Keywords: Higher education, Lifelong Learning, Motivation, Self-regulation and self-regulated learning
Presenting Author: Yasuhisa Kato, Tokyo Online University, Japan

With regard to learning at the Internet university, continuing motivation to learn is one of the key factors to success. In particular, student self-management is highly needed to continue learning motivation when working adults learn at the Internet University for relearning and improving skills. The purpose of this research is to clarify the mechanism of self-management and how to support students at the Internet University. In addition, when learners is in a flow state (highly focused) during learning, it will be found that the learning efficiency is increased during flow, and that it enables learners to continue their willingness to learn autonomously by recognizing their own flow state. The learner's flow state can be surveyed as simple as possible by using a questionnaire or an interview as well as a glasses-type measurement device (measurement of myoelectric potential and exercise amount around eyeballs), and a watch-type activity meter (measurement of heart beat), and a headband type simple brain wave meter. I'll propose a supporting system for students in the Internet university, to enhance willingness to continue learning motivation and to manage themselves in learning environment after collecting information about their learning or learning style.

Sessions C 7

27 November 2019 15:45 - 17:15
Estonia + Latvia (VSpa)
Present & Discuss
Early childhood education

Early Childhood Education A

Keywords: 21st century learning, Collaborative Learning, Curricula, Early childhood education, Mathematics Education, Problem-based learning, Professional Development, Social interaction, Team Learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments
Chairperson: Jan Kamphorst, Hanze University of Applied Sciences, Netherlands

How young children collaborate while participating in maker activities?
Keywords: 21st century learning, Collaborative Learning, Early childhood education, Social interaction
Presenting Author: Essi Vuopala, University of Oulu, Finland; **Co-Author:**Pirkko Siklander, University of Oulu, Finland; **Co-Author:**Saija Martikainen, University of Oulu, Finland, Finland

This study illustrates how young children collaborate during maker activities. Especially the interest is to understand the forms of interaction children have while collaborating and learning together. The participants were 15 children aged 4-5 years who participated in maker activities for two weeks. Children worked with collaborative tasks related to healthy food in local daycare center, outdoors and in FabLab where the groups were fabricating a joint plate model for healthy eating. Video-data was collected for capturing collaborative events and children's interaction. Photos and pictures were taken throughout the process to evaluate children's knowledge about healthy food before and after the maker project. Qualitative content analysis is used to capture collaborative events, and forms of interaction. Preliminary results indicate that collaborative learning between children is rare. During the FabLab activities children showed more spontaneous interaction than in day care activities. In the collaborative events, on-task interaction included mostly short statements and questions. Elaborative explanations were scarce. Off-task interaction was mostly concentrated of coordinating joint activities, like taking care of turns in using tools and materials. The results of this study provide early childhood teachers and teacher educators knowledge of collaborative learning and maker activities within young children.

Playful Making in Early Education Context: Triggers for acting and learning together
Keywords: Collaborative Learning, Curricula, Early childhood education, Problem-based learning
Presenting Author: Pirkko Siklander, University of Oulu, Finland, Finland; **Co-Author:**Essi Vuopala, University of Oulu, Finland; **Co-Author:**Saija Martikainen, University of Oulu, Finland, Finland

New national core curricula call for using diverse environments, indoor and outdoor. Learning is required to be based on problem-solving, playful activities, and use of all senses and entire body. We designed playful making process (cf. Hyvönen, 2008b) using three types of environments: indoor in the kindergarten, outdoor in the forest and indoor in the Fablab maker space. The aim was to explore children's experiences and learning. The following research questions were stated: How children understand healthy food during the process? and 2) What is meaningful for children when experiencing playful making process? 15 children, aged 4-5 years participated in the playful making process, which followed a narrative, instructed by the owl, hand puppet, who needed children's help. The data was collected through video-recording, pre- and posttest, and photo-elication. The results evidence that children's understanding about healthy food increased during the process. In the end they could categorize healthy and unhealthy without hesitation. They experienced activities in the forest and FabLab the most and interesting, because they provided cognitive (eg. map, recipe, problem) and social (helping animals) triggers. FabLab represent novelty value for them. Results are implicaple for researchers and practitioners in the field of early childhood and elementary level.

Mathematics in play
Keywords: Early childhood education, Mathematics Education, Professional Development, Team Learning
Presenting Author: Ronald Keijzer, Hogeschool iPabo, Netherlands; **Co-Author:**Annerieke Boland, Hogeschool iPabo Amsterdam, University of Applied Sciences, Netherlands; **Co-Author:**Eefje van der Zalm, Marnix Academie, Netherlands; **Co-Author:**Marjolijn Peltenburg, Marnix Academie, Netherlands

The research project 'Mathematics in play' searches for characteristics of the interaction between preschool/kindergarten teachers and preschoolers (2-6 years) that are helpful for stimulating young children's language and mathematical development in the context of spontaneous play.
This research has a design based approach and is cooperatively performed in heterogeneous PLC's (professional learning communities) consisting of professionals in preschool and kindergarten and educational researchers. An aim of the project is to understand the processes of collective learning in these PLC's. Preliminary findings of the study show that that (1) observing, connecting and enriching (OCE) are crucial in stimulating young children's development in mathematics, and (2) a heterogeneous PLC is a powerful way in professional development of young children's teachers and researchers. Professionals experience difficulty in combining the approach of OCE with recognizing mathematical aspects present in children's play.

Sessions C 8

27 November 2019 15:45 - 17:15
Pirogov (Dorpat)
Present & Discuss
Higher education, Primary education, Secondary education

Students' Well-being and Experiences

Keywords: Beliefs and conceptions of learning, Beliefs and conceptions of teaching, Emotion and emotional development, Higher education, Innovations in education, Project-based learning, School Development, Secondary school education, Teacher thinking, Teaching approaches, Well-being and engagement
Interest group: CLOUD 02 - Educators' professional development, CLOUD 04 - Improving learning and well-being
Chairperson: Bert van Veldhuizen, Hogeschool van Amsterdam, Netherlands

Researching the use of ‘challenges’ as an innovative de-schooling project
Keywords: Innovations in education, Project-based learning, School Development, Secondary school education
Presenting Author: Kerstin Helker, RWTH Aachen University, Germany; **Co-Author:**Matthias Rürup, University of Wuppertal, School of Education, Germany; **Co-Author:**Michael Hecht, Kulturwerkschule Dresden, Germany

So-called ‘challenges’ have been implemented in increasing numbers of schools across Germany. In these projects, students get the chance to spend a longer time range, usually two weeks, on a challenge of their own choice. These most often are trips by foot or bike over a large distance and with limited money so that students will have to cut back on comfort, e.g., accommodation and nutrition.
By implementing these de-schooling projects, schools aim at learning goals that exceed the scope of schools by allowing their students to experience themselves as autonomous, capable of decision-making and problem solving and thus benefitting when facing real-world challenges in later life.
This research aims to understand the students’ view on how ‘challenges’ should be implemented in order to be most effective for their learning. 763 students of 13 schools with different conceptualizations of ‘challenges’ filled in online surveys. Among others, students’ competence beliefs, responsibility and collaborative work were surveyed in relation to the specific school’s implementation of the ‘challenge’. Voluntariness and doing team challenges showed to be the most central factors for students feeling they benefited from the experience. The results suggest that such extracurricular activities may benefit from less regulation by the school.

A systematic review: Interventions to stimulate students’ wellbeing
Keywords: Emotion and emotional development, Higher education, Innovations in education, Well-being and engagement
Presenting Author: Jolise 't Mannetje, Saxion University of Applied Sciences, Netherlands; **Co-Author:**Marjolein Heijne-Penninga, UMCG, Netherlands; **Co-Author:**Irene Visscher, Saxion University of Applied Sciences, Netherlands; **Co-Author:**Marca V.C. Wolfensberger, Hanzehogeschool Groningen, Netherlands; **Co-Author:**Debbie Jaarsma, UMCG, Netherlands

Wellbeing and related topics such as study-success, stress and burnout are themes that get more and more attention in educational institutes and in media (Centre for Education Statistics and Evaluation, 2015; Dopmeijer et al., 2018; Stoker, 2018). Research shows that more wellbeing might lead to better results, which can be explained from the Job Demands-Resources model (Carmona-Halty, Salanova, Llorens & Schaufeli, 2018). We are interested in answering the question how students in Higher Education can be supported to experience more wellbeing, to help them reaching better results. Wellbeing can be supported through interventions (Shankland & Rosset, 2017). We will make an overview of the actions institutions of Higher Education already take to stimulate the experience of wellbeing of students. Therefore, we have completed a systematic review of interventions in Higher Education to stimulate students’ wellbeing. Institutions of Higher Education can use this overview as a source of inspiration for further stimulating the wellbeing of their own students.

Growth mindset in teaching: A case study of a Finnish elementary school teacher
Keywords: Beliefs and conceptions of learning, Beliefs and conceptions of teaching, Teacher thinking, Teaching approaches
Presenting Author: Rina Ronkainen, Tallinn University, Institute of Educational Sciences, Finland; **Co-Author:**Kirsi Tirri, University of Helsinki, Finland; **Co-Author:**Elina Kuusisto, University of Humanistic Studies, Netherlands

This study investigates how a growth mindset is actualised in one first-grade teacher’s classroom. Mindset refers to implicit beliefs that individuals hold about basic human qualities. A person with a growth mindset sees these qualities as malleable and subject to development, whereas a person with a fixed mindset sees these qualities as static and unalterable. Previous research has shown that teachers’ mindsets have an influence on their pedagogical thinking and practice. This research aims to answer to following research question: How is growth mindset actualised in teaching practices? The data in this study include observation, videotaping, critical incident method and stimulated recall interviews. The teacher´s growth mindset was actualised in her teaching practices in interactions with her students both individually and with the entire class collectively. Growth mindset with the individual student was seen for example in critical feedback in the form of `not yet’ and teacher´s high expectations and persistence with the student. Whereas growth mindset appeared with the whole class most strongly in teacher´s high expectations and concrete and immediate praise. The teacher studied can be regarded as an example of a growth-mindset teacher, and her teaching practices provide illuminating examples of growth mindset pedagogy in classroom interactions.

Sessions C 9

27 November 2019 15:45 - 17:15
Peterson (Dorpat)
Present & Discuss
Higher education, Vocational education

Internships and Professional Workplaces

Keywords: Assessment and evaluation, Cognitive Skills & Development, Collaborative Learning, Competence-based education, Educational Effectiveness and quality of education, Higher education, Innovations in education, Internships, Practice-based research (methodology), Vocational education, Workplace learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 04 - Improving learning and well-being
Chairperson: Wouter Smets, Belgium

Internship assessments: How can they be improved?
Keywords: Assessment and evaluation, Cognitive Skills & Development, Competence-based education, Internships
Presenting Author: Bart Duriez, Karel de Grote-Hogeschool, Belgium

In four programs of a Belgian college, an attempt was made to improve the internship assessment. Because contemporary literature emphasizes the process-based nature of internships, interventions aimed to not only have an effect on assessment quality the but on the entire internship process. In Study 1, for half of the students, more assessors were involved, and each assessor increased the amount of observations. In Study 2, for half of the students, peer assessments were introduced. In Study 3, learning groups were introduced to teach underdeveloped soft skills, which were also included in the summative assessment. Effects of the interventions on the opinions of students, teachers and mentors on the assessment were measured with a questionnaire containing 14 quality criteria. In addition, learning effects of the interventions were examined via student self-reports. Study 1 and 2 suggest that, by only focusing on the internship assessment, one might be able to create support for the assessment, but one will likely fail to create an additional learning effect. To this end, it seems vital to actually target specific competencies (as was done in Study 3). Guidelines are given for schools that wish to improve their internships and their internship assessments.

Professional Workplaces: validating a model for collaborative learning, researching and working.
Keywords: Collaborative Learning, Higher education, Innovations in education, Workplace learning
Presenting Author: Daniëlle Quadakkers, Fontys University of Applied Science, Netherlands; **Presenting Author:**Petra Swennenhuis, Fontys University of Applied Sciences, Netherlands

Societal challenges demand cross-sector collaborations between governments, industry and higher education. Fontys UAS, collaborates with non-profit organisations in so called Professional Workplaces (PW): sustainable, cross-sector, boundary-spanning collaborations between education and professional practices, which are physically located within the professional practice organizations. Within these authentic learning environments, professionals, students, lecturers and other stakeholders learn, study and work together in delivering services to clients and improve professional practice. Literature review on factors influencing collaboration in these PW, and exploratory interviews with boundary crossers resulted in a cohesive model which represents six elements. Centrally located is the ‘primary process’, namely collaborative learning, researching and working. This process is facilitated by four components: collaborative directing and (re)organising, freeing up people and resources, forming and maintaining relationships, and leadership and autonomy. This all happens in a development orientated culture focused on boundary crossing. Subsequently a multiple case study was performed to further validate this model and included stakeholders

which participate in a PW. Four PW were selected and data were collected using questionnaires, focusgroups and interviews, complemented with observations and documents. This presentation will highlight the main results from the first two case study's and preliminary results from case study three and four.

How can vocational schools optimize on-the-job learning experiences of students?
Keywords: Educational Effectiveness and quality of education, Internships, Practice-based research (methodology), Vocational education
Presenting Author: Janneke Buisman, Hogeschool van Amsterdam, Netherlands

The central question in this study is: which factors hinder and promote the optimization of learning experiences in vocational education. The context of the study was the course of pedagogical work at the ROC of Amsterdam. Policy measures to improve the quality of vocational education implemented by the Dutch government since 2011 have moved the school to action. A plan to improve internships has been drawn up for the course of Pedagogical Work. Surveys among students, teachers and the internship supervisors, however, showed that there was still dissatisfaction with the connection between school and workplace and with supervision during internships. This practice-based research used a mixed methods design: semi-structured interviews were held as well as a survey among 130 student. This research shows that all learning options that are mentioned from the theoretical framework can be seen in course pedagogical work. The promoting factors relate in particular to the affective component of teachers behaviour and the focus on creating safety and awareness among students. The factors that hinder learning in internships are: the preconditions and internal communication between different stakeholders involved in the course, the gap between the workplaces and the study program and the quality of some learning opportunities.

Sessions C 10

27 November 2019 15:45 - 17:15
Finland (VSpa)
Present & Discuss
Higher education, Primary education, Vocational education

Game-based Learning

Keywords: Continuing professional development in Teachers, Creativity, Game-based learning / Gamification, Higher education, In-service Teacher Training, Innovations in education, Language Education, Motivation, Primary school education, Qualitative and Quantitative Approaches to Learning and Instruction, Web-Based Learning
Interest group: CLOUD 02 - Educators' professional development, CLOUD 04 - Improving learning and well-being
Chairperson: Mandy Stoop, Fontys University of Applied Science, Netherlands

"Less is MAES": conceptual bases of a Teacher Professional Learning Communities in a board game
Keywords: Continuing professional development in Teachers, Game-based learning / Gamification, Motivation, Web-Based Learning
Presenting Author: Azenaide Abreu Soares Vieira, Federal Institute of Mato Grosso do Sul - IFMS, Brazil; **Co-Author:**Matheus Souza, Instituto federal de tecnologia e educação do Mato Grosso do Sul, Brazil

The research aims to develop an educational resource based on the principles of gamification capable of engaging teachers on training processes. The educational resource presents teaching and learning concepts that support the MAES Network - consisting of ongoing teacher training courses planned by teachers who participated the VET Teacher for the Future and FiTT Finnish Training Trainers programs in Finland, and offered by IFMS, Campus New Andradina. Gamification adds a set of practices and skills capable of promoting a new possibility to teaching-learning problems when integrated into the educational process. By using principles of motivation and engagement, gamification in education has become a field of high potential as an educational method. With the potential to contextualize, exemplify and disseminate complex concepts anchored in the national guidelines for the Brazilian educational system (BRASIL, 2018), based on the gamification model proposed by Huang and Soman (2013), the game Less is MAES is a research product, it can be used as an educational resource adaptable to different educational objectives.

English Orthography Made More Transparent: Young Learners' Flow Experience while Playing Rock It
Keywords: Game-based learning / Gamification, Language Education, Primary school education, Qualitative and Quantitative Approaches to Learning and Instruction
Presenting Author: Nihayra Leona, University of Amsterdam, Netherlands; **Co-Author:**Patrick Snellings, University of Amsterdam, Netherlands; **Co-Author:**Judith Rispens, University of Amsterdam, Netherlands; **Co-Author:**Jurgen Tijms, University of Amsterdam, Netherlands; **Co-Author:**Maurits van der Molen, University of Amsterdam, Netherlands; **Co-Author:**Margreet van Koert, University of Amsterdam, Netherlands

Game-based learning has positive effects on foreign language learning, and is becoming more widely applied (Godwin-Jones, 2014; Golonka, Bowles, Frank, Richardson & Freynik, 2014). Young learners of English as a foreign language have indicated that they struggle the most with English spelling and its non-transparent orthography (Muñoz, 2014). It is possible that game-based learning offers a solution these difficulties. Therefore, we developed *Rock It*, an educational game that teaches the English alphabetic, orthographic and logographic spelling principles (van Berkel, 1999) for the most frequent used English vowels. Before investigating the impact of *Rock It* on YELLs' spelling skills, we explored whether the game facilitates a flow experience (Kiili, 2005; Mayer et al., 2014). Fifteen potential young players (10-12 years) completed the EGameFlow questionnaire (Fu, Su & Yu, 2008) and were interviewed about their experience with the game. Their ratings were significantly positive for all factors related to a flow experience, except for the overall experience. The qualitative data indicated that the lower rating for overall experience was because players experienced the repetition of the spelling principles' and feedback as excessive. So, although *Rock It* generally facilitates a flow experience it should be (slightly) adapted prior to implementation in primary schools.

Developing 21st century skills in HE students: fostering creativity through an Escape Game
Keywords: Creativity, Higher education, In-service Teacher Training, Innovations in education
Presenting Author: Zarina M. Charlesworth, University of Applied Sciences & Arts Western Switzerland // HES-SO, Switzerland; **Co-Author:**Aleksandra Vuichard, University of Teacher Education Vaud, Switzerland and Université Paris-Est Créteil, France, Switzerland

The 21st century is one of evolution and change. The impact on education is now being felt at all levels and concerns students of all ages. Keeping in mind the changing skills set that industry expects from graduates, one that includes competencies such as creativity, flexibility, and critical thinking, it behoves educators to find ways to innovate in their classrooms in order to develop such skills. This mixed-methods project provides at least one answer to the overriding question of "how"? An escape game designed specifically for a class final-year Masters students (n=10) provided the framework for the research. This use of a an interactive exercise provided the means to impact student engagement and motivation as well as allowing for an examination of the creative processes brought into play and the emotions felt by the participants. An in-depth analysis was carried out using a variety of methods from observation to text analysis. Both quantitative and qualitative results show a a positive impact on the motivation to learn in addition to a positive relationship between creativity and emotions. Findings are discussed in terms of innovative classroom practice and will be of interest to educators, instructional designers and programme directors alike.

Sessions C 11

27 November 2019 15:45 - 17:15
Sweden (VSpa)
Present & Discuss
Higher education

Professional Learning Gains

Keywords: Culture and Education, Higher education, Initial Teacher Education (Pre-service), Knowledge Building and Development, Motivation, Multiculturalism

in Education, Professional Development, Training and Development
Interest group: CLOUD 01 - Teacher education, CLOUD 03 - Strategies to improve teaching and learning environments
Chairperson: Julianna MRAZIK, University of Pecs, Hungary

A qualitative study on the anxiety of IT students towards professional skills training
Keywords: Higher education, Motivation, Professional Development, Training and Development
Presenting Author: Mariecke Schipper, HU University of Applied Sciences Utrecht, Netherlands; **Co-Author:**Esther van der Stappen, HU University of Applied Sciences Utrecht, Netherlands

The importance of professional skills in future engineering jobs is beyond discussion. Our university also implemented professional skills training in the IT Bachelor program. Our IT students tend to have a positive motivation and attitude toward learning professional skills. However, a former quantitative study indicates that anxiety in learning professional skills increases from the first to the third year. In this qualitative study, we try to find causes for the increasing anxiety among IT-students. After analysing interviews with six students, we found that they experienced the need for professional skills during their internship and emphasized the need of obtaining these skills for future employment. When defining professional skills, students often referred to these as communication skills (oral and written). Analysing students' quotes, it appears that IT-students felt difficulty in obtaining communication skills. A possible cause for this anxiety mentioned by students was the character of students and the influence of the teacher. To overcome this difficulty obtaining communication skills, students suggested that training skills in an authentic engineering situation is more effective than doing exercises with simulated cases. However, the results of this study did not yield insight in the cause of increased anxiety, hence further research is needed.

"We learn from one another": Students´ learning gains in a multicultural education course
Keywords: Culture and Education, Initial Teacher Education (Pre-service), Knowledge Building and Development, Multiculturalism in Education
Presenting Author: Charlotte Eliza Wolff, University of Iceland School of Education, Iceland; **Co-Author:**Renata Emilsson, Peskova, Iceland

The purpose of this research was to explore how university students´ personal experiences in a multicultural classroom contribute to increasing awareness of multicultural theories and practices. Additionally, we sought to better understand how the course *Teaching Language in a Multicultural Classroom*impacted students, as future teachers and as members of multicultural societies. The course design emphasized building knowledge and skills relating to contemporary issues in multicultural education and language teaching, and was composed of culturally/linguistically diverse university students from Iceland and abroad. Our research was inspired by students´ insights and consistent reporting of personal and professional learning, as reported in reflective essays written at the end of the course. In these essays, which provided textual data for analysis, students´ shared their perspectives by narrating their learning experiences and transformations in their knowledge about multicultural issues. Thematic analysis was used to identify themes describing what students found most valuable or meaningful for their own learning. Through iterative, consensus coding, seven themes were identified: Learning about Multiculturalism through Direct Experience; Pedagogical Knowledge and Techniques Acquired; Teachers´ Role in the Classroom; Participants´ Personal Development; Expanding Awareness about Diversity and Inclusion; Challenges to Working in a Multicultural Context; and Language Learning in Context.

Sessions C 12

27 November 2019 15:45 - 17:15
Parrot (Dorpat)
Workshop
Higher education

Coaching student-teachers during workplace learning as a team

Keywords: Initial Teacher Education (Pre-service), Research-based learning, Team Learning, Workplace learning
Interest group: CLOUD 01 - Teacher education

In a professional learning community consisting of teacher-researchers we are trying to transform a tool that was designed for knowledge utilization of schoolbased research (Van Kan, van der Steen, de Vries, Wierda-Boer, 2019) in a tool for mentoring student-teachers during workplace learning. In this workshop we will present our designplan and first protoype of a serious game that aims to realize: 1. Knowledge utilization of student teacher research in schools,2. a more inclusive role for student-teachers practitioner research in their workplace learning, and 3. team-mentoring for student-teachers in schools. The aim of the workshop is to let the participants get acquainted with this game and let them experience how different mechanisms in this game can help students forward during workplace learning in which practitioner research is one of the components. Participants of this workshop get to play the game and afterwards we would like to discuss if en how this game can result in better mentoring of students during workplace learning and practitioner research and more involvement in schoolteams. By doing this we want to gather information that can help us to advance this design.

Coaching student-teachers during workplace learning as a team
Presenting Author: Janneke v.d. Steen, HAN University of Applied Sciences, Netherlands

In a professional learning community consisting of teacher-researchers we are trying to transform a tool that was designed for knowledge utilization of schoolbased research (Van Kan, van der Steen, de Vries, Wierda-Boer, 2019) in a tool for mentoring student-teachers during workplace learning. In this workshop we will present our designplan and first protoype of a serious game that aims to realize: 1. Knowledge utilization of student teacher research in schools,2. a more inclusive role for student-teachers practitioner research in their workplace learning, and 3. team-mentoring for student-teachers in schools. The aim of the workshop is to let the participants get acquainted with this game and let them experience how different mechanisms in this game can help students forward during workplace learning in which practitioner research is one of the components. Participants of this workshop get to play the game and afterwards we would like to discuss if en how this game can result in better mentoring of students during workplace learning and practitioner research and more involvement in schoolteams. By doing this we want to gather information that can help us to advance this design.

Sessions D 1

27 November 2019 17:30 - 19:00
Lithuania (VSpa)
EAPRIL Spotlight Session

Evidence standards in communicating research evidence to policy and practice (EIPPEE)

Keywords: Educational Policy, Professional Development, Research cooperation frameworks, School Development
Interest group:
Chairperson: Kaarina Marjanen, Laurea UAS, Finland

This Spotlight Session is organised by the EIPPEE-network (Evidence Informed Policy and Practice in Education in Europe). After a short introduction of the network by EIPPEE-member Rowan Zuidema (NRO); EIPPEE-member David Gough (Professor of Evidence Informed Policy and Practice at University College London) will inform the audience via a live video-lecture about one of the topics of interest at EIPPEE: the use of evidence portals.Teachers and other professional practitioners have little time to access and assess the findings of primary research studies. Web based evidence portals (or toolkits) therefore provide an easy way to enable practitioners to keep up to date with research evidence. But in order to assess evidence claims we need to know about the quality and relevance of the research being communicated. An analysis will be presented of the standards of evidence used in mobilizing evidence to inform policy and practice in a range of educational and related web portals. It is argued that efforts of knowledge mobilization (KM) for professional practitioners do not always follow clear or consistent evidence standards. There are dangers of 'K lite KM' (knowledge mobilization).

Evidence standards in communicating research evidence to policy and practice (EIPPEE)
Presenting Author: Rowan Zuidema, Netherlands Initiative for Education Research (NRO), Netherlands; **Co-Author:**David Gough, UCL Institute of Education, United Kingdom

This Spotlight Session is organised by the EIPPEE-network (Evidence Informed Policy and Practice in Education in Europe). After a short introduction of the network by EIPPEE-member Rowan Zuidema (NRO); EIPPEE-member David Gough (Professor of Evidence Informed Policy and Practice at University College London) will inform the audience via a live video-lecture about one of the topics of interest at EIPPEE: the use of evidence portals.Teachers and other professional practitioners have little time to access and assess the findings of primary research studies. Web based evidence portals (or toolkits) therefore provide an easy way to enable practitioners to keep up to date with research evidence. But in order to assess evidence claims we need to know about the quality and relevance of the research being communicated. An analysis will be presented of the standards of evidence used in mobilizing evidence to inform policy and practice in a range of educational and related web portals. It is argued that efforts of knowledge mobilization (KM) for professional practitioners do not always follow clear or consistent evidence standards. There are dangers of 'K lite KM' (knowledge mobilization).

Sessions D 2

27 November 2019 17:30 - 19:00
Struve II (Dorpat)
EAPRIL Cloud Spotlight Symposium
Higher education

CLOUD 3 - Strategies to improve teaching and learning environments

Keywords: 21st century learning, Assessment and evaluation, Collaborative Learning, Curricula, Educational Technology, Higher education, History education, Innovations in education, Learning styles / approaches, Teaching approaches, Training and Development
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments
Chairperson: Marcelo Giglio, Switzerland
Discussant: Rebecca Eliahoo, United Kingdom

This symposium is an opportunity to discuss topics in the frame of Cloud 3 and to contribute towards improving teaching strategies, learning environments and / or collaborative learning in the current digital transformation. This symposium aims to build a network of projects and practitioner-researchers who are interested in the evolution of education (first contribution) the contemporary practical examples (second and third contribution) and how teaching can improve collaborative learning (final contribution).

The Evolution of Education from Education 1.0 to Education 4.0 : is it an evolution or a revolution
Presenting Author: Gregoris Makrides, European Association of ERASMUS coordinators, Cyprus

The education systems implemented in most countries today are characterized by the elements of Education 2.0, while very few countries are pushing for reforms defined by Education 3.0. The presentation will discuss the features at the development stages of Education from Education 1.0 to Education 4.0 and will try to answer to the question whether this is an evolution or a revolution. Some related EU funded projects in progress, like L-Cloud: Development of tomorrow’s Cloud Education Leaders and new digital based student competitions will be discussed.

Clever lessons: 12 principles for effective instruction (cancelled)
Co-Author: Tim Surma, Open University of the Netherlands, Netherlands

Every day, thousands of teachers provide thousands hours of lessons. Although the tasks of teachers are multiple and diverse, teaching effective lessons is at the core of their profession. Since the 1970s, the process-product-research design has been identifying instructional principles that effective teachers use to maximize learning outcomes (see e.g., Rosenshine, 2010). The principles derived from this observational research were also investigated and confirmed by experimental research (e.g. in cognitive psychology). Which are these instructional principles? Why do these principles work for the majority of learners (i.e., what is the cognitive science behind them?). How could teachers implement them in practice? We will present a project, Clever Lessons, which aims to bridge the gap between educational and cognitive science, and daily classroom practice. Twelve effective instructional principles were identified. Each principle is underpinned by scientific evidence. In a supplementary workshop, we illustrate each principle with inspiring, contemporary practical examples of how teachers apply these principles in their classrooms. This initiative was pursued by a team of cognitive scientists, educational scientists, teachers and teacher educators. This group represents a wide spectrum of subdisciplines in education and is therefore the ideal group for translating science for classroom use.

Improve teaching practice at university, for meaningful learning (cancelled)
Presenting Author: Renata Viganò, Università Cattolica del Sacro Cuore, Italy

Main research questions: in university teaching, what are the effects of collaborative learning and authentic task, as to the motivation to learn, the quality of learning and the development of professional skills? How innovate teaching with large classes and structural constraints?
Methodology: observational, referred to practice-based research in a context of experiential and situated learning. Every four weeks students are proposed a task to be carried out in part in small group and partly individually. They have to make choices and decisions about its features and how to achieve it, handle with real problems and put theory into practice in implementing the work. Students are also asked to reflect about their learning process, the competences they have used and their professional growth. Students’ outcomes and reflections have been collected and analyzed with a quantitative-qualitative approach.
Results: student outcomes and academic results improved. Students integrate theoretical, methodological, practice and soft skills. They open up to exercise meta-reflection on their work, as an essential resource for lifelong learning and professional development.
Main conclusions for educational practice: better integrate theory and practice at university; provide pedagogical training for university teaching; implement effective teaching and learning environments at university using collaborative learning.

Education for the future: HEI’s 5.0?
Presenting Author: Susana Bastos, ISCAP - Higher Education Institute of Accounting and Administration Porto, Portugal

This article arises from the proposal of a new approach regarding the inclusion of soft-digital skills training in higher education. The study carried out on several curricular units in different higher education courses in Portugal led us to reflect on a different educational model, which combines the development of soft skills in digital environments. Digitalization and the use of technologies since early ages in the educational process are rising up interesting questions. This article intends to go deeper on the use of digital technologies, namely through the virtual environments imposed by higher education institutions as a form of study.The methodology used in this study has its support on questionnaires made to students of higher education in different areas of knowledge, such as medicine, nursing, engineering, management, arts and literature. The main conclusions of this study are the creation of digital platforms that not only support the study but also contemplate the use of a virtual reality where students can interact with others in the discussion and resolution of real life situations.

Sessions D 3

27 November 2019 17:30 - 19:00
Struve I (Dorpat)
EAPRIL Cloud Spotlight Session
Higher education

CLOUD 10 - Assessment in Europe: differences and communalities

Keywords: Assessment and evaluation, Higher education, Meta-cognition and metacognive learning, Training and Development
Interest group: CLOUD 10 - Assessment
Chairperson: Fer Boei, Windesheim University of Applied Sciences, Netherlands
Chairperson: Jeroen van der Linden, HAN University of Applied Sciences, Netherlands

CLOUD 10 - Assessment in Europe: differences and communalities
Keywords: Assessment and evaluation, Higher education, Meta-cognition and metacognive learning, Training and Development
Presenting Author: Fer Boei, Windesheim University of Applied Sciences, Netherlands; **Presenting Author:**Jeroen van der Linden, HAN University of Applied Sciences, Netherlands

Last year, in Portoroz, we started an inventory about what was going on in Europe concerning assessment within the classroom. The result of this inventory was the mindmap that we presented in our blog.
So we know and learned that the subject of assessment is diverse in Europe. But there are also common concerns. It is therefore imperative to get a clear picture about these differences and communalities, so that we can help each other in pending questions. Questions about vision on assessment, organising assessment, maximizing output, grading assessment, assessment analyses, learning artefacts, assessment literacy of teachers and students, ect. The goal for the session in Tartu is to get this picture.
In the cloud 10 session in Tartu, we will first get to know each other. We will do so by utilising the introductions method.
Secondly, we will address the common questions in groups. Groups will then rotate and supplement the given answers so saturation can be achieved. Lineage of the participants will be recorded so the diversity within Europe will get clear.
Finally, the yields (proceeds?) will be collected and presented. This will create a new starting point for the cloud to proceed in the forthcoming year.

Sessions D 4

27 November 2019 17:30 - 19:00
Estonia + Latvia (VSpa)
Thematic Carousel
Higher education, Workplace learning

Meaningful learning in organisations: practice-based research on onboarding-talent management and offboarding practices - session 1/2

Keywords: 21st century learning, Cooperative learning, Corporate learning, Curricula, Higher education, Labour market & formal learning, Lifelong Learning, Teaching approaches, Vocational education, Web-Based Learning, Workplace learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 05 - HRD & Workplace learning, CLOUD 14 - Learning in Organisations
Chairperson: Tom De Schryver, Netherlands

Closing the skills gap: public-private initiatives towards a skills-based labour market
Keywords: Corporate learning, Lifelong Learning, Vocational education, Workplace learning
Presenting Author: Marieke Veltman, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**Anneke Goudswaard, Windesheim Flevoland University of Applied Science; TNO, Netherlands; **Co-Author:**Nihat Dag, Windesheim Flevoland University of Applied Science, Netherlands

Labour supply shortages at the Dutch labour market have become pressing in recent years. At the regional labour market this predominantly concerns SMEs, forcing them to find new ways to recruit and train potential talent. Since traditional professional/vocational education cannot fill in the gap, they must search in other groups, sectors or amongst the unemployed. In response, public-private partnerships have attempted to relieve these shortages by designing approaches to support employers to identify potential talent across sectors, and beyond the scope of specific professional/vocational education programmes. A skills approach, with skills as “the core currency of the labour market” (World Economic Forum, 2019) might solve the mismatches, and help to offset the increasing dynamism in the required skills and bridge the gap.

We will present two initiatives to which we have contributed, in which employers, municipalities, educational institutes and intermediary organisations joined forces to match potential workers to jobs and to develop tailormade training programmes adopting a skills approach: House of Skills and New Jobs Lelystad. We will share the lessons learned from these cases and present design principles for the design of future initiatives in similar contexts.

Online degree education through cross studies
Keywords: Higher education, Labour market & formal learning, Lifelong Learning, Web-Based Learning
Presenting Author: Kati Mäenpää, Oulu University of Applied Sciences, Finland; **Co-Author:**Marjo Joshi, Turku University of Applied Sciences, Finland

Finnish Ministry of Education and Culture has funded eAMK,, a project to develop year-round digital studies that can support flexible curricula and offer students a possibility to expand their knowledge and competences through cross-studies from all participating Universities of Applied Sciences (UAS). (https://www.eamk.fi/en/frontpage/). The project involves all UAS in Finland, thus developing online education for staff and students in those higher education institutions (HEIs). One of the working groups in the project is focusing on developing online degree studies in higher education. Online degree education refers to studies that are completed fully in digital environments and that lead to a higher education degree. Online degree education is equivalent to on-site degree education and results in the same degree certificate as traditional degrees. Currently online degree education is offered in e.g. business, ICT, social studies, media production and blended learning education in nursing. In addition to skills and competences students gain in their own study field, they also gain digital work competences by studying fully online. Most online degree students are working professionals who need complementary competences in their current work or new skills and knowledge in order to advance in their profession. Communication and collaboration skills in digital global work environments is seen critical skills for many of today’s workplaces. Our students rate the digital work skills gained in online studies very high, as most of them see this as an added value that may not be achievable in traditional on-site degree education and adds to their profile in the job market. Also self-regulative learning skills are seen essential in professional learning and professional competence. The preliminary research shows that studying in online learning environment sustains students’ self-regulative learning skills in terms of motivation regulation. In addition, students’ study engagement, well-being and academic performance are related to better motivation regulation, but do not differ between students’ studying either in traditional or online degree programmes. Online degree education provides a modern way of educating professionals with excellent skills in digital work, virtual collaboration and self-management, all of which are needed in working in today’s demanding tasks in for-profit companies. It is therefore important to focus on the development of solutions and implementations of online degree education to provide an opportunity for working professionals as well as those entering labour market the best possible study opportunities to gain new skills and knowledge. For the HEIs, developing online degree education means implementing new approaches to learning and teaching, learning environments, guidance, assessment, and teacher training, to name a few. Also, new structures and policies may be implemented at the level of the organisation.

Engineering Education and Industry: University initiatives to eliminate knowledge gap
Keywords: 21st century learning, Curricula, Higher education, Teaching approaches
Presenting Author: Liudmila Bolsunovskaya, National Research Tomsk Polytechnic University, Russian Federation

Nowadays interest in new skills of a future engineer is on the radar of researchers. To meet society’s challenges the successful future engineer will need business and management knowledge, leadership, high ethical standards, professionalism, dynamism, agility, resilience, strong analytical skills, practical

ingenuity, creativity, good communication skills, flexibility, and the pursuit of lifelong learning. To prepare the engineer for that challenging future, the National Research Tomsk Polytechnic University undertook an in-depth study of how engineering education would have to change and to lower the knowledge gap of students close to the labor market, providing a tremendous diversity of engineering skills. The research revealed some of the obstacles the engineering university had to overcome. The paper suggests the outline of training and development initiatives within the Tomsk Polytechnic educational strategy. As a result of the research, an engineering competency model was suggested. Developing an engineering competency model was identified as a key priority by the authorities of Tomsk Polytechnic University to help educators, employers, professionals and future engineers understand the knowledge and skills needed to thrive in the workplace. The result of the research professes a new role for the engineers of tomorrow, reflecting a new level of leadership and professionalism.

Bringing higher education of social and health care to the digital era
Keywords: Cooperative learning, Lifelong Learning, Web-Based Learning, Workplace learning
Presenting Author:Päivi Pöyry-Lassila, Laurea University of Applied Sciences, Finland; **Co-Author:**Sanna Juvonen, Laurea University of Applied Sciences, Finland; **Co-Author:**Outi Ahonen, Laurea UAS, Finland; **Co-Author:**Elina Rajalahti, Laurea UAS, Finland; **Co-Author:**Panu Huczkowski, Lapland University of Applied Sciences, Finland; **Co-Author:**Marko Vatanen, Lapland University of Applied Sciences, Finland; **Co-Author:**Merja Drake, HAAGA-HELIA University of Applied Sciences, Finland; **Co-Author:**Taina Romppanen, KAMK University of Applied Sciences, Finland; **Co-Author:**Tuija Buure, Metropolia University of Applied Sciences, Finland; **Co-Author:**Leena Hinkkanen, Metropolia University of Applied Sciences, Finland; **Co-Author:**Minna Tiainen, Tampere University of Applied Sciences, Finland; **Co-Author:**Piia Kuosa, Laurea University of Applied Sciences, Finland

Learning in multidisciplinary collaboration: Bringing higher education of social and health care to the digital era
The mission of the SotePeda 24/7- project is to develop the expertise of educators, students, and working life representatives in developing human centric digital services in health and social care sector, and in digital pedagogy. During the project, we will create new pedagogical solutions and digital courses that will enable fluent, year-round digital learning paths for university students and working life in the field of health and social care. The solutions being developed include, e.g., MOOCs, virtual gamified learning environments, and digital living labs for learning. The SotePeda 24/7 project applies participatory service design methods when developing the learning environments and pedagogical solutions. The target of the development is to support trialogical learning in the context of digital health and social care services in multidisciplinary teams, taking the lifelong learning perspective into account. Furthermore, the learning environments and contents are not developed only for university students but also for the multidisciplinary social and healthcare professionals already in working life updating their knowledge, and for the organizations in this sector including public, private and third sector perspectives needing new knowledge. The project has adopted as its principal pedagogical model, directing the development of the learning environments and solutions, the *trialogical learning model* (e.g. Hakkarainen & Paavola, 2009). According to Sfard (1998; see also Paavola & Hakkarainen 2005) there are two basic theories or metaphors of learning, namely the acquisition metaphor ('monological learning') and the participation metaphor ('dialogical learning'). In addition to these two, Paavola and Hakkarainen (2005) have introduced the third metaphor, the knowledge-creation metaphor ('trialogical learning') according to which learning is targeted to expand the existing knowledge and competencies through a process of an "innovative inquiry". Based on Hakkarainen and Paavola (2009) we define the trialogical learning as a process of co-creating new knowledge and solutions through multidisciplinary collaboration. The trialogical learning process is mediated by nature, which means that it takes place through the shared objects, using them as mediators. Trialogical learning can be seen as a form of expansive learning (e.g. Engeström, 2009). In this kind of a learning process, knowledge is collaboratively created with the help of shared objects, conceptual or concrete, as well as practices that are collaboratively and systematically developed through the collective action. The individual members of the learning community participate actively in the shared knowledge creation process. (Paavola & Hakkarainen, 2005; Hakkarainen & Paavola, 2009) The objective of our presentation is firstly, to elaborate on the trialogical learning model, and secondly, to find out ways to disseminate this model into different kinds of digital work communities acting as innovative knowledge communities. We also aim to discuss why and how the trialogical learning model fits well to the context of digitalizing social and health care education at the university level. In addition, our presentation focuses on how all three metaphors of learning could be taken into account in the digital learning environments and communities.
References: Engeström, Y. (2009). Expansive learning: toward an activity-theoretical reconceptualization. In: K. Illeris (ed.) Contemporary Theories of Learning. London: Routledge, pp. 53-73. Hakkarainen, K. & Paavola, S. (2009) Toward Trialogical Approach to Learning. In: B. Schwarz et al. (eds.) Transformation of Knowledge through Classroom Interaction. Abingdon: Routledge, pp. 35-80. Paavola, S. & Hakkarainen, K. (2005) The Knowledge-Creation Metaphor – An Emergent Epistemological Approach to Learning. Science & Education, Vol. 14 (2005), pp. 535-557. Sfard, A. (1998) On Two Metaphors for Learning and the Dangers of Choosing just One, Educational Researcher Vol. 27, No. 2, pp. 4–13.

Sessions D 5

27 November 2019 17:30 - 19:00
Sweden (VSpa)
Symposium
Higher education

Dreamers of the past, present and future. European ICT in (teacher) education symposium

Keywords: 21st century learning, Beliefs and conceptions of learning, Educational Technology, Higher education, In-service Teacher Training, Initial Teacher Education (Pre-service)
Interest group: CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning
Chairperson: Erkko Sointu, University of Eastern Finland, Finland
Organiser: Henk Sligte, Netherlands
Organiser: Henk La Roi, Windesheim University of Applied Sciences, Netherlands
Discussant: Mart Laanpere, Estonia

In Europe, there is a strong need for collaboration on research and practice in the complex field of technology integration in higher education and in particular, teacher education. In this symposium, four contributors from three different European countries present their various perspectives of Information and Communication Technology (ICT) in (teacher) education. Two of these presentations deal with current practitioner research of technology integration in teacher education, one represents a more historical dialogue between past and present and one presents larger empirical evidence of teachers' technology skills from students' perspectives. More specifically, the symposium will deal with different forms of 'essential' technology integration, ranging from *Dreaming of Constructivist Technology Integration Strategies in Future Teacher Students* to *Prospective teachers' technological pedagogical reasoning and action*, and *Reconstructing dreams about meaningful ICT-usage in education*to *More meaningful implementation of ICT in education – A dream come true? Students' perception of their teachers' TPACK skills during Flipped Classroom courses.*

Dreaming of Constructivist Technology Integration Strategies in Future Teacher Students
Presenting Author: Robert Reuter, University of Luxembourg, Luxembourg; **Co-Author:**Gilbert Busana, Université du Luxembourg, Luxembourg

Based on previous experiences in preparing future teachers for technology integration (Reuter & Busana, 2017), and based on the recommendations from Kolb's (2017) Triple E framework about effective uses of ICT in education, we have adapted the Educational Technology course in our Initial Teacher Training. Over the years, we have indeed observed that, when given the choice of the type of technology integration strategies, many students designed ICT-based learning and teaching scenarios that implemented a rather teacher-centred teaching model (Roblyer & Doering, 2013). These scenarios were often far from innovative nor did they implement the disruptive potential of ICT in education (Christensen, Horn & Johnson, 2008). In the winter semester 2018-2019 we thus decided to ask our students to design and develop constructivist technology integration scenarios. We assessed the success of this adaptation with the help of

our own observations, the semester reports produced by our students and their answers to an end-of-semester course evaluation. In general, we saw that students were able to design rather attractive constructivist learning activities. We also observed that our students were quite surprised that such activities do not require complicated and expensive tools, but that they can be implemented with standard productivity tools.

(CANCELLED) Prospective teachers' technological pedagogical reasoning and action
Presenting Author: Henk La Roi, Windesheim University of Applied Sciences, Netherlands; **Presenting Author:**Roland Bruijn, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**Anneke Smits, Windesheim University, Netherlands; **Co-Author:**Joke Voogt, Windesheim University of Applied Sciences, Netherlands

This study took place in a department for secondary teacher education in an institute for higher education in the Netherlands. We integrated technology in a literature course for third-year students of English and modelled content-specific pedagogical thinking around technology integration. In this study we aim to come to a deeper understanding of students' technological pedagogical reasoning and action (TPR&A, Smart, Sim & Finger, 2015) after the course. We addressed our research question through a qualitative approach with semi-structured interviews of 35 course participants. The interviews probed students' pedagogical reasoning and actions related to technology integration. After a first round of inductive analysis, a second round of deductive analyses followed. In the analysis (based partly on Starkey's Digital Age Learning Matrix, 2011) different levels of technological pedagogical reasoning and action were identified, as well as three types of barriers to TPR&A.

(CANCELLED) Reconstructing dreams about meaningful ICT-usage in education
Presenting Author: Henk Sligte, Novum Education Intermedia, Netherlands

Looking back at the history of ICT in (teacher) education, quite some initiatives were based on 'dreams' of the presupposed power of technology to improve and even transform learning and its support in school organisations. Dreams are in this case the practical theories as sum of hypotheses on how ICT-based interventions would trigger desired change mechanisms and outcomes within certain contexts. The question is whether all dreams were realised, and if so, with what results, and if not, why. In this contribution it is explored whether the method of realist explanatory evaluation is suitable to reconstruct old dreams of pioneer practitioners and researchers in the field of ICT-based educational innovation, and to confront this cloud of reconstructions with current situations. More specifically it is aimed at researching the disappearance of once effective projects of technology-enhanced learning, its rationalities behind becoming extinct, and its possible reanimation, either in original form, or transposed to current technological, educational (e.g. in the light of the so-called 21st century skills), and social-cultural state-of-art of practice and theory. It this way it is attempted to learn from the past and to bridge to the future of meaningful ICT-enhanced learning, and ultimately to ICT in (teacher) education.

More meaningful implementation of ICT in education – A dream come true?
Presenting Author: Erkko Sointu, University of Eastern Finland, Finland; **Presenting Author:**Jenni Kankaanpää, University of Eastern Finland, Finland; **Co-Author:**Teemu Valtonen, University of Eastern Finland, Finland; **Co-Author:**Laura Hirsto, University of Helsinki/ University of Eastern Finland, Finland

This research focuses on developing higher education (HE) teaching practices using Flipped Classroom (FC) approach. The context of the study is one Finnish university. The aim of the development work was to replace lecture-based teaching with student-centred pedagogical practices and to improve teachers' technological skills. Participating teachers were provided with training how to implement FC approach into their courses. Research was conducted in collaboration with participating teachers with pretest-posttest design using electronic questionnaires, targeting course students (*N*= 317). With this design, we wanted to see the effects of FC-approach from the students' perspective. The focus was on how students see their teachers' readiness to use ICT in education, using Technological Pedagogical Content Knowledge (TPACK) framework and attitudes towards using technology in teaching, before and after the course. The data were analysed as single group but also as separate groups for first year students and second and higher year students. Statistically significant results were found in TPACK areas and attitudes between pretest and posttest, particularly with student in second year and beyond.

Sessions D 6

27 November 2019 17:30 - 19:00
Baer (Dorpat)
Workshop

Making practice-based research more meaningful

Keywords: Innovations in education, Knowledge Building and Development, Practice-based research (methodology), Research-based learning
Interest group: CLOUD 11 - Practice-based Research Methodology

This workshop challenges participants to collectively think about a design for a more dialogical approach of practice-based research, in which both researchers and practitioners are actively engaged in developing practice-based research projects. As practice-based researchers, all the workshop leaders find themselves struggling in projects to creatively achieve innovative and useful outcomes for practice as well as for research. Therefore, this workshop builds on past experiences and insights from different (Dutch) practice-based research projects, and wants to create a fresh and renewed look on real meaningful practice-based research. We will discuss the challenges of practice-based research projects, that are often developed with divergent ambitions, work styles and -cultures, which in our experience often leads to minimal and 'better-than-nothing' practical and scientific outcomes. After discussing these challenges briefly, we aim to collectively develop a set of working principles that possibly lead to a renewed research design, which we denote as a dialogical approach, that increasingly connects the practical goals and processes to the research goals and processes. In the workshop we also challenge the feasibility of the current funding requirements that still often encourages a standard and somewhat restricting academic research routine.

Making practice-based research more meaningful
Presenting Author: Kariene Woudt-Mittendorff, Saxion University of Applied Sciences, Netherlands; **Co-Author:**Peter den Boer, Onderzoeksbureau Onderzoekend Leren, Netherlands; **Co-Author:**Aniek Draaisma, Stichting Consortium Beroepsonderwijs, Netherlands; **Co-Author:**Aimée Hoeve, HAN University of Applied Sciences, Netherlands; **Co-Author:**Hester Smulders, ecbo, Netherlands; **Co-Author:**Haske van Vlokhoven, HAN University of Applied Sciences, Netherlands

This workshop challenges participants to collectively think about a design for a more dialogical approach of practice-based research, in which both researchers and practitioners are actively engaged in developing practice-based research projects. As practice-based researchers, all the workshop leaders find themselves struggling in projects to creatively achieve innovative and useful outcomes for practice as well as for research. Therefore, this workshop builds on past experiences and insights from different (Dutch) practice-based research projects, and wants to create a fresh and renewed look on real meaningful practice-based research. We will discuss the challenges of practice-based research projects, that are often developed with divergent ambitions, work styles and -cultures, which in our experience often leads to minimal and 'better-than-nothing' practical and scientific outcomes. After discussing these challenges briefly, we aim to collectively develop a set of working principles that possibly lead to a renewed research design, which we denote as a dialogical approach, that increasingly connects the practical goals and processes to the research goals and processes. In the workshop we also challenge the feasibility of the current funding requirements that still often encourages a standard and somewhat restricting academic research routine.

Sessions D 7

27 November 2019 17:30 - 19:00
Krause (Dorpat)
Workshop
Higher education

The complexity and simplicity of interdisciplinary teaching outdoor

Keywords: Higher education, In-service Teacher Training, Primary school education, Professional Development
Interest group: CLOUD 01 - Teacher education

The background for this workshop is a project that has been developed for students in our primary teacher education at Western Norway University of Applied Sciences, Campus Stord. This is an interdisciplinary project where we bring together different subjects (physical education, music, drama, arts and crafts, storytelling, relational leadership) by using outdoor experiential teaching and practical and aesthetical learning processes (Austring & Sørensen, 2006). The Norwegian government states that varied and student-active learning should be emphasized in higher education: “Learning is a subjective process through activities and reflection in the interaction between students and teachers, rather than the students passively receiving knowledge” (Ministry of Education and Research, 2016, p. 17). This requires cross-disciplinary cooperation between different subjects. Our research group is familiar with the complexity and simplicity of interdisciplinary collaboration (Heggen & Smeby, 2012). This project seeks to develop student-active learning that is practical and research-based. We emphasize practical and aesthetic learning processes where understanding is constructed, and we use outdoor experiential learning as a method. For two days the students work together, reflect and discuss how they can transform activities (e.g., singing, baking, fishing, carving, knots, performing legends) and bring them to their own teaching practice.

The complexity and simplicity of interdisciplinary teaching outdoor
Presenting Author: Helga Aadland, Western Norway University of Applied Sciences, Faculty of Education, Arts and Sports, Norway; **Co-Author:**Tone Iversen, Western Norway University of Applied Sciences, Faculty of Education, Arts and Sports, Norway; **Co-Author:**Charlotte Tvedte, Western Norway University of Applied Sciences, Faculty of Education, Arts and Sports, Norway; **Co-Author:**Gunhild Rolfsnes, Western Norway University of Applied Sciences, Faculty of Education, Arts and Sports, Norway; **Co-Author:**Marit Kulild, Western Norway University of Applyed Sciences, Norway

The background for this workshop is a project that has been developed for students in our primary teacher education at Western Norway University of Applied Sciences, Campus Stord. This is an interdisciplinary project where we bring together different subjects (physical education, music, drama, arts and crafts, storytelling, relational leadership) by using outdoor experiential teaching and practical and aesthetical learning processes (Austring & Sørensen, 2006). The Norwegian government states that varied and student-active learning should be emphasized in higher education: “Learning is a subjective process through activities and reflection in the interaction between students and teachers, rather than the students passively receiving knowledge” (Ministry of Education and Research, 2016, p. 17). This requires cross-disciplinary cooperation between different subjects. Our research group is familiar with the complexity and simplicity of interdisciplinary collaboration (Heggen & Smeby, 2012). This project seeks to develop student-active learning that is practical and research-based. We emphasize practical and aesthetic learning processes where understanding is constructed, and we use outdoor experiential learning as a method. For two days the students work together, reflect and discuss how they can transform activities (e.g., singing, baking, fishing, carving, knots, performing legends) and bring them to their own teaching practice.

Sessions D 8

27 November 2019 17:30 - 19:00
Lobby Room (VSpa)
Workshop
Higher education

How to capture (hybrid) design knowledge in a minimum viable product: a video workshop.

Keywords: Higher education, Innovations in education, Knowledge Building and Development, The role of research on learning and instruction in developing education systems
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments

Little is known about the design of environments at the school-work boundary (Bouw, Zitter and De Bruijn, 2019). Zitter (2010) categorized four design perspectives: artefacts, roles, space and time. In the design of hybrid learning environments, educational designers have to make design choices from all four perspectives. Hybrid learning environment are often designed ‘on the go’ and design choices remain implicit. This complicates knowledge building. In this workshop participants record a video, based on an interview questionnaire designed by Zitter and Custers in 2019. The interview questionnaire is intended to capture hybrid curricula design knowledge. In the workshops, participants work in groups. After seeing one example video-interview, they together record a video interview about an environment at the school-work boundary brought in by one of the participants. Recording this interview makes participants aware of the large spectrum of choices that can and need to made while designing hybrid learning environments. At the same time, this helps build a knowledge base with design choices regarding these boundary crossing environments. Finally, participants become more aware of the possibilities of ‘lean’ ways of doing research through working on this video as a minimum viable research product.

How to capture (hybrid) design knowledge in a minimum viable product: a video workshop.
Presenting Author: Maud Hendrickx, Fontys University of Applied Sciences, Netherlands; **Co-Author:**Maria Custers, Fontys, Netherlands; **Co-Author:**Ilya Zitter, Hogeschool Utrecht (University of Applied Sciences Utrecht), Netherlands

Little is known about the design of environments at the school-work boundary (Bouw, Zitter and De Bruijn, 2019). Zitter (2010) categorized four design perspectives: artefacts, roles, space and time. In the design of hybrid learning environments, educational designers have to make design choices from all four perspectives. Hybrid learning environment are often designed ‘on the go’ and design choices remain implicit. This complicates knowledge building. In this workshop participants record a video, based on an interview questionnaire designed by Zitter and Custers in 2019. The interview questionnaire is intended to capture hybrid curricula design knowledge. In the workshops, participants work in groups. After seeing one example video-interview, they together record a video interview about an environment at the school-work boundary brought in by one of the participants. Recording this interview makes participants aware of the large spectrum of choices that can and need to made while designing hybrid learning environments. At the same time, this helps build a knowledge base with design choices regarding these boundary crossing environments. Finally, participants become more aware of the possibilities of ‘lean’ ways of doing research through working on this video as a minimum viable research product.

Sessions D 9

27 November 2019 17:30 - 19:00
Finland (VSpa)
Workshop
Workplace learning

Design As Research (DARe): an innovative strategy for meaningful professional learning

Keywords: Continuing professional development in Teachers, Professional Development, Professionalisation of educators, Workplace learning
Interest group: CLOUD 02 - Educators' professional development

In this workshop the participants will experience how professional learning of educators could be stimulated by means of design thinking in a specific form of a professional learning community, the learning design studio (LDS), a course format aimed at enculturation of educational professionals into design inquiry of learning (Mor & Mogilevksy, 2013). A learning design studio refers to a series of meetings between education professionals that are all engaged in Design As Research (DARe). The meetings aim to improve the practices of the participants and to facilitate them in their professional learning. Participants in a design studio collaborate by acting as each other’s critical friends. A design studio focuses mainly on ‘iterations’ and dialogue between the participants is guided by tools, such as protocols. We argue that this way of professional development is more sustainable and more meaningful for teachers.

Design As Research (DARe): an innovative strategy for meaningful professional learning
Presenting Author: Ellen Rohaan, Fontys University of Applied Sciences, Netherlands; **Co-Author:**Rutger van de Sande, Fontys University of Applied Sciences, Netherlands

In this workshop the participants will experience how professional learning of educators could be stimulated by means of design thinking in a specific form of a professional learning community, the learning design studio (LDS), a course format aimed at enculturation of educational professionals into design inquiry of learning (Mor & Mogilevksy, 2013). A learning design studio refers to a series of meetings between education professionals that are all engaged in Design As Research (DARe). The meetings aim to improve the practices of the participants and to facilitate them in their professional learning. Participants in a design studio collaborate by acting as each other's critical friends. A design studio focuses mainly on 'iterations' and dialogue between the participants is guided by tools, such as protocols. We argue that this way of professional development is more sustainable and more meaningful for teachers.

Sessions D 10

27 November 2019 17:30 - 19:00
Peterson (Dorpat)
Workshop
Higher education

Curriculum flexibility and the needs of specific groups of students

Keywords: Curricula, Diversity, Higher education, Professional Development
Interest group: CLOUD 08 - Diversity & equality in different contexts

This workshop is about curriculum flexibility in relation to the needs and capabilities of specific groups of students. A flexible curriculum, in which students are provided with opportunities to (partly) control their own learning process and learning environment (Cheong, 2013; Collis & Moonen, 2001), is often used for addressing student diversity. Flexibility relates to student autonomy, that is, being able to make decisions about his/her own learning. However, it is not clear how characteristics of flexibility (in the exceptional case that these have been explicated) can be connected to the needs/capabilities of specific groups. In the workshop, a flexibility matrix will be used that connects types of flexibility with student autonomy. This tool is the result of a previous study of the presenters. Participants will learn how to use this flexibility matrix. They form a think tank for connecting flexibility with characteristics of specific groups of students, and for formulating guidelines regarding this connection for the development of education. The participants will be actively involved in making the connection between flexibility characteristics and the needs of specific groups of students. Participants will connect the topic to their own educational practice and discuss this connection in small groups.

Curriculum flexibility and the needs of specific groups of students
Presenting Author: Herma Jonker, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**Virginie März, Université catholique de Louvain, Belgium; **Co-Author:**Joke Voogt, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**Anneke Smits, Windesheim University, Netherlands

This workshop is about curriculum flexibility in relation to the needs and capabilities of specific groups of students. A flexible curriculum, in which students are provided with opportunities to (partly) control their own learning process and learning environment (Cheong, 2013; Collis & Moonen, 2001), is often used for addressing student diversity. Flexibility relates to student autonomy, that is, being able to make decisions about his/her own learning. However, it is not clear how characteristics of flexibility (in the exceptional case that these have been explicated) can be connected to the needs/capabilities of specific groups. In the workshop, a flexibility matrix will be used that connects types of flexibility with student autonomy. This tool is the result of a previous study of the presenters. Participants will learn how to use this flexibility matrix. They form a think tank for connecting flexibility with characteristics of specific groups of students, and for formulating guidelines regarding this connection for the development of education. The participants will be actively involved in making the connection between flexibility characteristics and the needs of specific groups of students. Participants will connect the topic to their own educational practice and discuss this connection in small groups.

Sessions D 11

27 November 2019 17:30 - 19:00
Parrot (Dorpat)
Workshop
Higher education

Efficient use of the new technology tools for teamwork and ubiquitous teaching and learning

Keywords: Blended learning, Innovations in education, Team Learning, Web-Based Learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments

In the rapidly changing and very competitive world it is crucial to continuously develop highly efficient methods and its tools for supporting teaching and learning processes adaptations.Thanks to innovative ubiquitous method applications within the digital marketing field study environment, our students reached relatively quickly international recognition attaining professional level of the studied field proficiency. Competing with thousands of peer teams our students regularly achieve top ranking positions in international collegiate challenges like the Google Online Marketing Challenge or the Global Online Marketing Academic Challenge.In this workshop we would like to share our 11 year experience in using the new technologies to create an optimal and well organized study environment. Our approach is adherent to the NMC Horizon and European Commission recommendations [1,2].The Digital World empowers us allowing for real-time or asynchronous, from local to Global (cross-continents, cross-time zones) collaboration and communication. We will demonstrate how to use free (vs enterprise edition) Google Apps to work, collaborate, teach and learn online from anywhere, anytime, on any device.[1] "The NMC Horizon Report Europe: 2014 Schools Edition", the NMC Horizon and European Commission. [2] "2014 NMC Technology Outlook for Australian Tertiary Education", the NMC (New Media Consortium) and Open Universities Australia.

Efficient use of the new technology tools for teamwork and ubiquitous teaching and learning
Presenting Author: Wojciech Czart, Faculty of Physics, Adam Mickiewicz University in Poznań, Poland

In the rapidly changing and very competitive world it is crucial to continuously develop highly efficient methods and its tools for supporting teaching and learning processes adaptations.Thanks to innovative ubiquitous method applications within the digital marketing field study environment, our students reached relatively quickly international recognition attaining professional level of the studied field proficiency. Competing with thousands of peer teams our students regularly achieve top ranking positions in international collegiate challenges like the Google Online Marketing Challenge or the Global Online Marketing Academic Challenge.In this workshop we would like to share our 11 year experience in using the new technologies to create an optimal and well organized study environment. Our approach is adherent to the NMC Horizon and European Commission recommendations [1,2].The Digital World empowers us allowing for real-time or asynchronous, from local to Global (cross-continents, cross-time zones) collaboration and communication. We will demonstrate how to use free (vs enterprise edition) Google Apps to work, collaborate, teach and learn online from anywhere, anytime, on any device.[1] "The NMC Horizon Report Europe: 2014 Schools Edition", the NMC Horizon and European Commission. [2] "2014 NMC Technology Outlook for Australian Tertiary Education", the NMC (New Media Consortium) and Open Universities Australia.

Sessions D 12

27 November 2019 17:30 - 19:00
Pirogov (Dorpat)
Case study
Higher education, Lifelong learning

Learning Tracks in Practice-based Research

Keywords: Assessment and evaluation, Blended learning, Collaborative Learning, Doctoral education (PhD education), Instructional Design and Instructional Strategies, Practice-based research (methodology), Self-regulation and self-regulated learning
Interest group: CLOUD 11 - Practice-based Research Methodology
Chairperson: Ilkka Väänänen, Lahti University of Applied Sciences, Finland

Making education together with mastertheses
Keywords: Assessment and evaluation, Collaborative Learning, Practice-based research (methodology), Self-regulation and self-regulated learning
Presenting Author: Diana P. Zwart, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**TRG group Marco Hanneke Femke Amanda Lourens Willeke Jeanet Laura Regien Lieke Liesbeth Edwin TRG group, Windesheim University of Applied Sciences, Netherlands

Master Learning and Innovation (MLI) is a part-time two-year educational program (Applied Sciences) for teachers who want to become an expert in learning and innovation. MLI students graduate with their masterthesis. This individual research puts pressure on student's study program in the second year: the road ahead is a lonely and rocky one and the impact of the research has not always been demonstrated as sustainable in professional practice. Furthermore, little time is spent to collaborate and learn from each other.
Therefore we set up a Thematic Research Group (TRG) with 12 MLI students who work as teachers in primary, secondary and vocational education. The TRG students initiated a study with the MLI supervisor on the design of a learning environment in their own professional practices that stimulated self-regulated learning and investigated teachers' changing role in this learning environment. TRG students and their colleagues designed the learning environment based on design criteria and conducted a four week pilot. Results from TRG students' individual professional practices were discussed in the context of the results from all TRG students. This collaboration provides deeper learning since TRG students share different approaches that offer innovative solutions to stimulate self-regulation in many different professional practices.

Educational Design Research: a personalized, practice-based learning track for PhD students
Keywords: Blended learning, Doctoral education (PhD education), Instructional Design and Instructional Strategies, Practice-based research (methodology)
Presenting Author: Sanne van Vugt, University Medical Center Utrecht (UMCU), Netherlands; **Co-Author:**Willemien de Haan, University Medical Center Utrecht, Netherlands

There is a growing concern about the poor quality of animal research, often caused by the lack of a properly set up experimental design. With the ambition to improve the quality of animal research in the future Utrecht University, University Medical Center Utrecht and The Animal Welfare Body Utrecht have combined their forces. With Life Long Learning as an instigator for discussion, the three institutes are contributing to the change of the unruly research culture. A first step towards this ambition is the development of a personalized, workplace-based learning track for PhD students in animal research. Educational Design Research (EDR) was used as a methodological framework. The aim of EDR is to both design an intervention as a solution to a complex educational problem, as well as to advance our knowledge about characteristics of these interventions and the process to design them. The design process has led to a learning track that consists of online and face to face learning activities, based on the concepts of: connectivism, personalized learning and workplace-based learning. The pilot, planned at the end of 2019, hopefully gives us first insights in both the effectivity of the learning track as well as the instructional design itself.

Sessions D 13

27 November 2019 17:30 - 19:00
Ewers (Dorpat)
Case study
Higher education, Secondary education

Involving all Educational Stakeholders

Keywords: 21st century learning, Beliefs and conceptions of learning, Collaborative Learning, Competence-based education, Cooperative learning, Higher education, Project-based learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 14 - Learning in Organisations
Chairperson: Miranda de Hei, The Hague University of Applied Sciences, Netherlands

Developing interdisciplinary entrepreneurial education. Learnings from experienced higher educators.
Keywords: 21st century learning, Collaborative Learning, Higher education, Project-based learning
Presenting Author: Kari-Pekka Heikkinen, Oulu University of Applied Sciences, Finland; **Co-Author:**Ulla-Maija Seppänen, Oulu University of Applied Sciences, Finland

This case study focuses on describing the key principles of establishment an interdisciplinary education program and addressing the challenges of operating and maintaining one. The description is done by a network consisting of experts developing and/or executing interdisciplinary university education in three different continents; Europe, Asia, North and Middle America. Common for this network is the utilisation of the LAB Studio Model (LSM), which is a pedagogical model grounded to a studio based learning. Studio based learning can be defined as an instructional strategy that provides students with opportunities to engage in relevant and authentic work life learning in a university setting. Specific for the LSM is the combination of international and intergenerational students working in interdisciplinary project teams. In this description of the principles and challenges for developing interdisciplinary education, good practices for curricula development, staff management, stakeholder collaboration and pedagogical methodologies will be shared. The data this case study is based on was collected during an international conference in June 2019.

Independent learner – how to develop learning to learn competences in basic school
Keywords: Beliefs and conceptions of learning, Collaborative Learning, Competence-based education, Cooperative learning
Presenting Author: Tiina Tiit, Pelgulinna Gymnasium, Estonia; **Co-Author:**Dagmar Nakus, Pelgulinna Gymnasium, Estonia; **Co-Author:**Reelika Rosin, Pelgulinna Gymnasium, Estonia; **Co-Author:**Raido Marmor, Pelgulinna Gymnasium, Estonia

How to turn schools into learning organizations where teachers can improve their practices, has been studied for a long time.
The goal of our program was: to develop supportive environment where teachers and students are partners in learning process, where the teacher's role is to develop students' learning to learn competences become independent learners. In this school development programme university and school teams worked together during one academic year following six steps of change model:1. step – analysing current situation and the needs for improvement from the perspective of learners,2. step – defining the goals focusing on improving students' learning,3. step – designing change implementation plan that includes collecting evidence to evaluate the process designing, 4. step – school-university joint implementation of the plan and continuous monitoring the process,5. step – evaluation of the impact on students' learning and change management process,6. step – reflection and setting goals for next period including steps to support sustainability.Our teachers worked in professional learning groups, they shared their experiences and supported each other during process of teaching new learning strategies. Teachers took part of trainings and got tools for developing of learning to learn skills.

Sessions E 1

28 November 2019 08:00 - 09:30
Peterson (Dorpat)
EAPRIL Spotlight Session
Higher education

Using Learning Analytics to Design Personalized and Adaptive Feedback for Higher Education

Keywords: Artificial intelligence, Cognitive Skills & Development, Higher education, Tutoring
Interest group:
Chairperson: Joshua Schiefelbein, University of Tartu, Estonia

In this spotlight session, we will follow a workshop format: we will demonstrate how to provide personalized interventions through the application of learning analytics and pedagogical reasoning. In particular, we will apply various computational algorithms on existing data and attempt to interpret findings based on established educational theories. Then, along with participants, we will design appropriate feedback to facilitate learning, taking into account the principles of the Zone of Proximal Development and Contingent Tutoring. This work aims to contribute to bridging the gap between pedagogical theory and practice when it comes to scaffolding. By the end of the session, participants will be able to combine established theoretical frameworks and modern practices that build on computational and technological advances to establish appropriate learning conditions by addressing specific student needs.

Using Learning Analytics to Design Personalized and Adaptive Feedback for Higher Education
Presenting Author: Irene-Angelica Chounta, University of Tartu, Estonia

In this spotlight session, we will follow a workshop format: we will demonstrate how to provide personalized interventions through the application of learning analytics and pedagogical reasoning. In particular, we will apply various computational algorithms on existing data and attempt to interpret findings based on established educational theories. Then, along with participants, we will design appropriate feedback to facilitate learning, taking into account the principles of the Zone of Proximal Development and Contingent Tutoring. This work aims to contribute to bridging the gap between pedagogical theory and practice when it comes to scaffolding. By the end of the session, participants will be able to combine established theoretical frameworks and modern practices that build on computational and technological advances to establish appropriate learning conditions by addressing specific student needs.

Sessions E 2

28 November 2019 08:00 - 09:30
Sweden (VSpa)
Present & Discuss
Primary education, Secondary education

Educational Innovations

Keywords: 21st century learning, Educational Technology, Geography education, Innovations in education, Mathematics Education, Primary school education, Professionalisation of educators, Secondary school education, Training and Development, Web-Based Learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning
Chairperson: Mirjam Burget, University of Tartu, Estonia

Integrating Mathematics and Geography in an everyday life context for Primary School students
Keywords: 21st century learning, Geography education, Mathematics Education, Primary school education
Presenting Author: Daphne Rijborz, Hogeschool IPABO Amsterdam/Alkmaar, Netherlands; **Co-Author:**Ronald Keijzer, Hogeschool IPABO Amsterdam/Alkmaar, Netherlands

Preparing students for lifelong learning is an aim in primary and secondary education (Platvorm Onderwijs 2032, 2016). This meaningful future based education asks for integrating school subjects rather than teaching separate school subjects (Gresnigt, 2018). Integrating school subjects here is considered as changing perspective from language genres underpinning the domains. Hereby teachers need adequate support (Hotze & Keijzer, 2017). This research focuses on mathematics and geography. It aims at learning students asking relevant questions about their own environment from both domains and answering these questions using domain specific strategies from both mathematics and geography. The research question is: How can a rich learning environment help primary school teachers to create an everyday life context that supports integrated learning in mathematics and geography? A first try-out showed that students avoid using and developing mathematics and geography, if there is necessity doing so.

Virtual studying and teaching challenges students and teachers
Keywords: Educational Technology, Innovations in education, Secondary school education, Web-Based Learning
Presenting Author: Liisa Ilomäki, University of Helsinki, Finland; **Presenting Author:**Minna Lakkala, University of Helsinki, Finland

In Finland, upper secondary schools can offer virtual courses in subjects, which are not available in school. The courses take place at scheduled times, and students participate through a virtual conferencing application. Also in virtual courses, the pedagogical practices should support, e.g., authenticity, collaboration with peers, metacognition, engagement and task-related motivation. For teachers, virtual teaching is demanding because of missing previous experiences. The study is a follow up -study, aiming to understand the characteristics and formation of virtual teaching and studying. We investigated the following themes: the nature of pedagogical practices, virtuality of communication and collaboration, and teacher's activities. The context was an entity of courses, organised during 3/2018 – 3/2019. The data collection followed the mixed methods approach. The data included a post-questionnaire to students (122) and teachers (14), observations of virtual lessons (6 courses, 1-2 lessons), teacher interviews (6), and the elements of the digital learning environment. Results showed two different student groups: those who participated in open courses, and those who participated in the virtual courses organised for their school. Teachers emphasised the need for good design, own flexibility and interest in developing pedagogical practices. The conferencing tool had good affordances for virtual communication and group work.

Co-creation of educational innovation in school-university partnership
Keywords: Educational Technology, Innovations in education, Professionalisation of educators, Training and Development
Presenting Author: Kairit Tammets, Tallinn University, Estonia; **Co-Author:**Janika Leoste, Tallinn University, Estonia; **Co-Author:**Tobias Ley, Tallinn University, Estonia; **Co-Author:**Terje Väljataga, Tallinn University, Estonia; **Co-Author:**Mart Laanpere, Tallinn University, Estonia

In this paper we describe the co-creation model EduLab that aims to build an interface between educational research, teacher training and school practice. Our research question is formulated as follows: how to integrate research and practice to adopt educational innovation? We propose implementation model that goes through four phases by helping to build a context where innovative teaching methods can be developed, tested and spread throughout the educational system and research about the innovation takes place to build an evidence base about the innovation. In our paper the model phases are illustrated with four cases from Estonian educational settings to focus on co-creation with the teachers technology-enhanced learning practices in the classroom to support students' learning. The invention phase (0) will be illustrated with Digimath case, where digital resources were developed and piloted with Estonian students. The investigation phase (1) will be illustrated with outdoor learning case, where students participated in the project day at the university to test new technology-enhanced practices. The scaling phase (2) will be illustrated with Smart schoolhouse case, where teachers are participating in novel teacher training format, and the sustaining phase (3) will be illustrated with robomath case, where teachers are developing new methods further.

Sessions E 3

28 November 2019 08:00 - 09:30
Pirogov (Dorpat)
Present & Discuss
Primary education, Secondary education

Instructional Design and Strategies

Keywords: Cognitive Skills & Development, Cooperative learning, Deep-level and profound learning, Educational Technology, Instructional Design and Instructional Strategies, Knowledge Building and Development, Learning and neuroscience, Mathematics Education, Problem Solving, Reading, Secondary school education, Teaching approaches
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning
Chairperson: Christian Wallner, Netherlands

Designing educational texts for introductory Nature Science course
Keywords: Instructional Design and Instructional Strategies, Knowledge Building and Development, Reading, Secondary school education
Presenting Author: Anastasia Lobanova, Psychological Institute, Russian Academy of Education, Russian Federation; **Co-Author:**Helen Vysotskaya, Russian Academy of Education, Russian Federation; **Co-Author:**Maria Yanishevskaya, Psychological Institute, Russian Academy of Education, Russian Federation

In this paper we discuss how students acquire Nature Science literacy - reading competencies in particular. Our hypothesis is that to scaffold future work with scientific texts, we have to expand working with the scientific text to the text-lab-model triad (Vysotskaya, 2017). That is, we suppose, that reading a scientific text means to mentally refer to experiment through model, or to refer to the model, having in mind an experiment to test it. Thus, we strive to design special educational texts to serve the purpose: they are planned as part of the triad in order to make the readers refer to model and lab. At the same time it is to provide clues, as one refers to the text from model or lab. We have tested “NartURE” curriculum – an introductory science curriculum designed according to the Developmental Instruction principles within the Educational Design Research framework for several micro-cycles. In this paper we discuss the results of one of the cycles concerning reading competencies. The texts we designed, actually scaffolded the work within the triad as intended, and proved to be effective in terms of reading competences. In conclusion we outline some features of the texts, resulting from the general idea.

Using sequencing of story events to facilitate primary students’ understanding of matter
Keywords: Cooperative learning, Deep-level and profound learning, Educational Technology, Teaching approaches
Presenting Author: Popi Anastasiou, Open University UK, United Kingdom

The purpose of this research was to evaluate the impact of story sequencing in helping students progress in their understanding of matter (RQ1), and how this could inform and guide teaching practice (RQ2). In this context, a digital storytelling approach was created, called SEeDS (Sequencing of Events enabling Digital Storytelling) which was based on story sequencing and it was compared with a more conventional approach, called Narration which involved story verbalisation. Both approaches were developed for the science topic of matter, as taught in primary schools. The study was framed within an experimental design framework and it involved sixty-four Greek primary students, aged 10-12 years old (Grade 5 and Grade 6). Participants worked together in teams of 3-4s in both the experimental and the control group. A mixed-method analysis of findings showed that the SEeDS approach helped students develop a better understanding of matter than did Narration, and they did so by using scientifically accepted reasoning better than did Narration students, whilst they employed deep than surface approaches to understanding. It is implied, thus, that story sequencing can challenge and promote students’ critical thinking and scientific reasoning, whilst trying to make meaning of content instead of simply reproducing it.

Teaching Diagram Knowledge that is Useful for Math Word Problem Solving
Keywords: Cognitive Skills & Development, Learning and neuroscience, Mathematics Education, Problem Solving
Presenting Author: Hiroaki Ayabe, Kyoto University, Japan; **Co-Author:**Emmanuel Manalo, Kyoto University, Japan; **Co-Author:**Noriko Hanaki, The Open University of Japan, Japan

Math word problem solving is considered important for developing real-life skills (e.g., OECD, 2016). In solving such problems, diagram use has been reported to be effective (Hembree, 1992; Uesaka et al., 2007). However, even though teachers demonstrate the use of diagrams, students don’t use them spontaneously, and when they do use diagrams, they tend to use them ineffectively (Uesaka & Manalo, 2012). Thus, there is a prevalence of difficulties in problem solving (e.g., Hegarty et al., 1992). Recently, it has been demonstrated that both diagram knowledge and practice in using them are necessary to promote spontaneous use (Ayabe & Manalo, 2018; Manalo & Uesaka, 2016). This study investigated the specificity of diagram knowledge necessary to facilitate effective solving of particular kinds of math problems. Forty-two participants (16.4 ± 6.7 years) were provided specific diagram use knowledge (tables or graphs) and then given problems to solve. In pretest, they seldom used diagrams. After intervention, increases in diagram use (η_G^2 = .36–.57) and correct answer rates (η_G^2 = .30–.52) occurred only in the problems that matched the diagram knowledge provided. This result clarifies that the need to teach students about using particular types of diagrams for different kinds of problems.

Sessions E 4

28 November 2019 08:00 - 09:30
Parrot (Dorpat)
Present & Discuss
Higher education, Secondary education

Professionalisation of Teachers

Keywords: Beliefs and conceptions of teaching, Collaborative Learning, Competence-based education, Continuing professional development in Teachers, Cooperative learning, Higher education, Initial Teacher Education (Pre-service), Innovations in education, Leadership development, Leadership styles, Professional Development, Team Learning
Interest group: CLOUD 01 - Teacher education, CLOUD 02 - Educators' professional development, CLOUD 12 - Leadership in Education
Chairperson: Zarina M. Charlesworth, Switzerland

Team taught learning environments: An evaluation by student teachers, mentors and pupils
Keywords: Beliefs and conceptions of teaching, Cooperative learning, Initial Teacher Education (Pre-service), Team Learning
Presenting Author: Mathea Simons, University of Antwerp, Belgium; **Co-Author:**Marlies Baeten, University of Antwerp; University College Leuven - Limburg, Belgium

Teacher education institutes show a growing interest in field experiences inspired by collaborative learning, such as team teaching (Gardiner & Robinson, 2009). Team teaching refers to “two or more teachers in some level of collaboration in the planning, delivery, and/or evaluation of a course” (Authors, 2014). Based on the level of collaboration, five teaching models can be distinguished. Research comparing these models is scarce (Carpenter et al., 2007). Our study investigated two models: sequential and parallel teaching. In sequential teaching, teachers divide the learning contents and teach alternately (Dugan & Letterman, 2008). In parallel teaching, they divide the class group and teach the same content to subgroups (Graziano & Navarette, 2012). Participants were 14 student teachers with a Master’s degree. They applied the models during field experiences. Their experiences were investigated by means of student logs and questionnaires. Their mentors (N=7) were interviewed and the pupils (N=229) answered a questionnaire. Student teachers recognized advantages (support, growth) and disadvantages (interdependence, complex management). Mentors reported more advantages for sequential teaching, while pupils preferred parallel teaching. The results suggest to combine both models. Together with the participants, we will discuss how they perceive (dis)advantages of team teaching and look at conditions for implementation.

Praise for the teacher!
Keywords: Collaborative Learning, Innovations in education, Leadership development, Leadership styles
Presenting Author: Robertus Gruijthuijzen, Udens College, Netherlands

The Teachers Development Fund (LOF) in the Netherlands started in October 2015 to provide hundreds of teachers with a guidance structure to sustainable develop their ideas on different impactlevels: class, school and beyond, by strengthen teachers through networking.
Five teacher researchers in the Netherlands have researched the impact of LOF on teacher leadership en innovation on different levels ranging from primary to secundary schools. This research is about the development of teachers as teacher leaders, the conditions in school, the sustainable implementation of educational innovations and the extent to which the LOF stimulates and promotes networking among LOF teachers and their egocentric networks.

Sharing practices in teacher education: Two international networks of university teachers
Keywords: Competence-based education, Continuing professional development in Teachers, Higher education, Professional Development
Presenting Author: Barbara Class, University of Geneva, Switzerland; **Co-Author:**Mònica Feixas, Zurich University of Teacher Education, Switzerland; **Co-Author:**Samir Boulos, Zurich University of Teacher Education, Switzerland

Interest for professional development of teacher educators in international settings is increasing but research in joint global initiatives is still nascent. The purpose of this study is to examine two Swiss funded networked projects: LECU (Learning Cultures in Universities) and SINAN (Swiss-North African Academic Network). More specifically, we describe how international academics gain ownership during the first face-to-face meeting by analysing topics discussed after courses and school visits and topics chosen for the trio work. Data gathered consist of observations of the meeting and documents produced which are analysed thematically. Thirty-seven university teacher educators (19 for LECU and 18 for SINAN; 24 Females, 13 Males; 25 PhD, 9 MA, 3 PhD candidates) with an average of 10 years of experience and originating from 5 different countries make up both cases. Findings show concerns expressed in the literature for later careers teacher educators, related to empowering students, preparing them for work as teachers or improving teacher education. Analysis of fragile contexts - Balkans and South of the Mediterranean region - suggest to consider, in future research, the situation of the educational system of a country; its geopolitical, historical and economic situation; and languages allowed and used for the exchanges.

Sessions E 5

28 November 2019 08:00 - 09:30
Struve II (Dorpat)
Present & Discuss
Primary education, Secondary education

Leadership Development

Keywords: Educational Effectiveness and quality of education, Educational Policy, Leadership development, Leadership styles, Lifelong Learning, Motivation, Primary school education, Professional Development, School Development, Teacher thinking
Interest group: CLOUD 12 - Leadership in Education
Chairperson: Alexandra BADETS, France

School leadership potential of educational practitioners in Flanders
Keywords: Educational Policy, Leadership development, Professional Development, Teacher thinking
Presenting Author: Hannelore De Greve, Karel De Grote University College, Belgium; **Presenting Author:**Kim Bellens, Karel de Grote Hogeschool, Belgium; **Co-Author:**Roel Thyssen, Karel de Grote University College Antwerp, Belgium

Educational systems worldwide are facing difficulties to find candidates to apply for the job of school leader. However it is crucial to have the best possible professional in that job, because the impact of a strong leader is very big. A lack of candidates jeopardizes the need for a thoughtful selection. In most countries there is little attention to a proactive approach in this matter. Talent pools, leadership pipelines, high potential programs, etc. are exceptional in educational settings. Hiring school leaders occurs in a rather ad hoc and unsystematic way.In our exploratory research we try to find out how educational practitioners in pre- and primary schools in Flanders think about themselves as future school leaders. After all, the believe of educational practitioners in one's own potential, is the very first prerequisite for increasing the number of candidates, as the evaluation of one's own potential will make or break the extent to which a person will apply for a job. Based on an understanding of how and why educational practitioners think about themselves as future school leaders we propose actions to increase the amount of them who do rate themselves as being able to become a good school leader.

Effects of a reflective learning trajectory for primary school leaders
Keywords: Leadership development, Lifelong Learning, Primary school education, Professional Development
Presenting Author: Ellen Daniëls, KU Leuven, Belgium; **Co-Author:**Annie Hondeghem, KU Leuven, Belgium

The current study is a qualitative impact study and is part of an extensive ongoing longitudinal mixed-method study. Based on the findings of the exploratory studies investigating school leaders' continuous professional development, the present study researches the impact of a professional development trajectory (PDT) relying on reflective group learning. The school leaders' daily experiences are the central subject in the PDT. The study addresses the following research questions:1) How do school leaders perceive the PDT?2) Which effects attribute school leaders to the PDT?3) Does the PDT contribute to SL job satisfaction? The study integrates interviews to map the perception of school leaders (n=19). The interviews are taken using a semi-structured questionnaire and consist of questions that gauge the perception of the PDT, coaching behaviour and job satisfaction. The transcripts are coded inductively and are currently in the second phase of analysis. Preliminary results show that overall the school leaders experience the PDT as meaningful. They value the recognition by the fellows in the group, which seem to ease them in their job. Another outcome is that they indicated that several approaches can lead to a valuable solution. They indicated to ask more accurate questions during coaching conversations.

The role of principals in school improvement in low socio economic contexts in developing countries
Keywords: Educational Effectiveness and quality of education, Leadership styles, Motivation, School Development
Presenting Author: Jan Heystek, North-West University, South Africa

It has been noted for some time that principals provide an indirect influence on student learning (Leithwood and Jantzi 2008). My research focused on the potential influence of principals to improve the quality of education in underperforming schools located in low socio economic context in South Africa (De Clercq, 2013). Main research question: How much influence does a principal have on factors in low socio economic context for school improvement?The project used a mixed method methodology. The focus for this presentation is a quantitative questionnaire distributed to principals, all teachers and school management team members at randomly selected schools in four from nine provinces in South Africa. The findings indicated that the socio-economic factors had the biggest negative influence for example child headed homes. Teacher's subject knowledge and extra classes was the most important positive factors. Principals may have limited influence on the socio-economic factors while they potentially have more influence on teachers to be on time and improve their qualifications. The practical implications are that principals must be trained to improve management of contextual factors. This finding may be totally different from schools in a developed country where most research have been done about leadership and school improvement.

Sessions E 6

28 November 2019 08:00 - 09:30
Lobby Room (VSpa)
Present & Discuss
Higher education, Secondary education

Pre-service Teacher Training

Keywords: 21st century learning, Higher education, History education, In-service Teacher Training, Initial Teacher Education (Pre-service), Language Education, Mathematics Education, Professional Development, The role of research on learning and instruction in developing education systems
Interest group: CLOUD 01 - Teacher education
Chairperson: Muriel De Wolf, University College Ghent, Belgium

Scaffolding teachers' historical thinking: development of a historical thinking taxonomy
Keywords: History education, In-service Teacher Training, Initial Teacher Education (Pre-service), Professional Development
Presenting Author: Wouter Smets, Karel de Grote University college, Belgium

Recent curriculum innovations across Europe incite history teachers' to learn to develop their students' historical thinking. A lot of research indicated that teachers find it difficult to apply historical thinking. Hence, scaffolding is needed to facilitated teachers' application of historical thinking. The present study draws upon Delphy-methodology. A panel of experts with diverse expertise in historical thinking was composed to discern categories of historical thinking and to specify levels of achievement. Referring to Van Boxtel and Van Drie (2018) six categories of historical thinking were discerned: asking historical questions; using historical terminology; using meta-historical concepts, contexualising concepts; reasoning with and about historical sources; developing historical argumentation. Achievement levels were discerned for five out of six categories. The sixth category (using meta-historical concepts) is proposed generic. Further external validation of the taxonomy is discussed.

Videos and reflective analysis of one’s own teaching: Competence development in teacher education
Keywords: 21st century learning, Higher education, Initial Teacher Education (Pre-service), Professional Development
Presenting Author: Sirpa Laitinen-Väänänen, JAMK University of Applied Sciences, Finland; **Co-Author:**Eila Burns, JAMK University of Applied Sciences, Jyväskylä, Finland

This research is a qualitative exploratory study investigating the meaning of video recordings and structured reflective analysis of one’s own teaching practice as a tool for vocational and professional teacher (VPT) development. The data was collected from one VPT-student group (n=14) at a university of applied sciences. The main data consisted 30 pages of students’ written reflections of their experiences of using video-observations in teaching practice. In addition to the main data, the teacher educators’ (also the main researchers) notes of the reflective feedback sessions conducted with the student teachers, were used as a secondary data. The initial results indicate that in the introduction phase, the idea and the whole process of making videos of one’s teaching sessions was considered intimidating. After the first video analysis and with the encouraging guidance from the teacher educator the analysis sifted into the pedagogical elements of teaching and the importance of a student-teacher interaction. Supporting learning material provided by the teacher educators and the reflective discussions together with the student and a peer, was considered an eye-opening and empowering experience.

Training primary school student teachers to stimulate pupils' academic language development
Keywords: Higher education, Language Education, Mathematics Education, The role of research on learning and instruction in developing education systems
Presenting Author: Nanke Dokter, Fontys HKE, Netherlands

Primary school student teachers should learn how to support pupils when developing academic language (AL). As the AL register differs from home language, pupils need help of teachers in developing it. Mastering the AL register is important for school success, especially in mathematics, where pupils need to decontextualize and solve complex problems (Mercer & Sams, 2006). To develop an effective training for student teachers, practice-based research was conducted, investigating AL input and stimulating strategies of 27 primary school teachers in grade 1/2 during 52 mathematical instructions. Correlations between the teachers' knowledge, attitudes and skills about AL and their used input and strategies were not found. Based on these insights and the interconnected model of professional growth (Clarke & Hollingsworth, 2002), a training on AL stimulating strategies was developed with reflection and enactment as central concepts. It was conducted and evaluated in a group student teachers (year 2, N=37). A control group (also year 2, N=37) was trained in a similar way, but without explicit instruction on AL stimulating strategies. The effects of the training were investigated, using a pre- and posttest design. The outline, implementation and effects of the training will be presented and discussed.

Sessions E 7

28 November 2019 08:00 - 09:30
Estonia + Latvia (VSpa)
Present & Discuss
Higher education, Lifelong learning, Vocational education

Educators' Professional Development

Keywords: 21st century learning, Assessment and evaluation, Continuing professional development in Teachers, Distance Education, Innovations in education, Lifelong Learning, Organisation of educational research, Organisational learning, Practice-based research (methodology), Professional Development, Self-regulation and self-regulated learning
Interest group: CLOUD 02 - Educators' professional development, CLOUD 10 - Assessment
Chairperson: Kerstin Helker, RWTH Aachen University, Germany

Assessment of continuing teacher education: a constructive alignment in the curriculum
Keywords: 21st century learning, Assessment and evaluation, Continuing professional development in Teachers, Practice-based research (methodology)
Presenting Author:MARIA IVANILDA SIMOES DE CAMARGO, Instituto Federal de Educacao, Ciência e Tecnologia, Brazil; **Co-Author:**Laryssa Amaro Naumann, Instituto Federal do Mato Grosso do Sul - Campus Nova Andradina, Brazil; **Co-Author:**EDNA PAULA MORAES ENZ PONES EDNA PAULA, ESCOLA ESTADUAL PADRE ANCHIETA, Brazil

Research focus was Network MAES (Active Learning Methodologies for the Student of the 21st Century), formed in 2016 with aim of promoting active learning practices in contexts of continuing teacher training. Study lead evaluation discussion in the curriculum arrangement Collaborative Learning Community`s ProfCAC-MAES among Teachers, one of the MAES Network courses. Used the theoretical reference from Biggs, "constructive alignment", and the SOLO taxonomy (Structure of Observing Learning Outcome) by Biggs and Collis. It's an action-research, in which the researchers were participants of the learning community in question. The student-researcher participated in built a collaborative formal curriculum, in which the evaluation was among discussion topics. It was put in practice and some criticism about the evaluation was made. At the community's own request, returned to the reorient evaluation practices. For this was analyzed the extent to which the formal curriculum aligned learning and evaluation objectives, the complexity levels promoted for methodological approaches, if the evaluation had information that demonstrated the result level. Note that although there was an intention to align the elements, to promote complexity, the engagement and cognitive maturity from students, were limit factors to deep learning, taking into account the levels of understanding proposed by Biggs and Collis.

Masters Learning and Innovation joint research into their collective profile
Keywords: Innovations in education, Organisation of educational research, Organisational learning, Professional Development
Presenting Author: Ariaan Sophia van Sandick, Rotterdam University of Applied Science, Netherlands; **Co-Author:**Jeroen Rozendaal, University of Applied Science Rotterdam Hogeschool Rotterdam, Netherlands; **Co-Author:**Frank De Jong, Aeres University of Applied Sciences & Open University Heerlen, Netherlands

Masters Learning & Innovation (MLI-MEd) professionalize teachers in various educational sectors to take up a role as pioneer/forerunner in innovation processes. Nine MLI-MEd’s, which developed from the same starting point over ten years, commissioned a study into widely supported communalities in their

current profiles, to define their common ground and validate it with the workfield. This study was designed as participatory action research (PAR) with five research cycles: clarification of research questions through literature review and professional dialogues with MLI-educators; survey amongst MLI-teachers, students and alumni (*n*=441); comparison with profiles of comparable masters; profile validation amongst domain experts. Finally, the acquired profile was also expressed as infographic.Paper and presentation address the method and yields of delineated research, as well as the research process in which stakeholders from various educational institutes participated. The study shows how co-creation in research can be realized. Discussion focuses on validity of the profile and transferability of the research approach for comparable research questions/situations. The unique initiative of the masters may inspire others to critically explore the properties of and support for their profile. Furthermore, PAR contributes to acquiring 'workable agreement' amongst stakeholders, which is vital to secure progress in complex processes of organizational development.

Self-Directed Learning Competencies in Adults' Educators' Qualification Development: OLR case
Keywords: 21st century learning, Distance Education, Lifelong Learning, Self-regulation and self-regulated learning
Presenting Author: Rasa Poceviciene, Šiauliai State College, Lithuania

Self-directed learning competencies or even more exactly competencies of management of self-directed learning is one of the basic skills in the contemporary world for everybody and especially for adult educators. They need these skills for at least two reasons. First, the adult educators, especially those who are working in non-formal education, are very diverse and have very different possibilities to develop their qualification. Because of this the electronic platform for adult learning in Europe (**EPALE**) was established, but to use it qualitatively adult educators need some skills and attitudes. At first, it is skills of self-directed learning and management of such learning.

Sessions E 8

28 November 2019 08:00 - 09:30
Ewers (Dorpat)
Workshop
Primary education

MusicMath Methodology: Learning Math in a Fun and Engaging Way with "Musical Monkeys" Workshop.

Keywords: Game-based learning / Gamification, Learning styles / approaches, Mathematics Education, Music & Arts Education
Interest group: CLOUD 04 - Improving learning and well-being

"Musical Monkeys" is one of MusicMath's workshops. The objective of MusicMath is to teach mathematics through music and vice versa. This game was originally designed for helping elementary students practice their math concepts and decipher musical rhythms by playing a board game. This format has proven to be engaging and fun for them. This game has also been played by adults, and they have given good feedback about the experience as well.
This game was the subject of a multidisciplinary PhD thesis supervised by the departments of mathematics and pedagogy at the University of Belgrade. The workshops were given in two schools during the month of December 2018 with positive and exciting results.
During this workshop, participants will play the game in three modes: analog board game, App IOS game, and a hybrid format which combines both formats. The MusicMath team is excited to receive feedback and opinions from all participants, which will be extremely valuable for improving and evolving the "Musical Monkeys" workshop.

MusicMath Methodology: Learning Math in a Fun and Engaging Way with "Musical Monkeys" Workshop.
Presenting Author: Eric Roldan Roa, University of Tartu, Estonia. MusicMath, Mexico; **Co-Author:**Erika Roldan Roa, The Ohio State University, United States; **Co-Author:**Stajka Rajić, University of Belgrade, Serbia; **Co-Author:**Misael Alejandro Hernández Leal, MusicMath, Mexico; **Co-Author:**Aldo Antonio Martínez Chávez, MusicMath, Mexico

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Sessions E 9

28 November 2019 08:00 - 09:30
Finland (VSpa)
Workshop
Primary education

Support for Effective Guidance of Question-Driven Learning

Keywords: Deep-level and profound learning, Innovations in education, Inquiry learning, Professionalisation of educators
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments

Student questioning is an important self-regulative strategy which has multiple benefits for teaching and learning. Teachers, however, need support to align student questioning to curricular goals. In this workshop participants will be introduced to the results of longitudinal design-based research: a principle-based scenario that supports teachers in guiding effective student questioning. In the scenario mind mapping is used to provide both structure to curricular content as well as support for student questioning. To raise multiple relevant questions about the core curriculum to be addressed, an adapted version of the Question Formulation Technique is applied. In this highly interactive workshop hands-on experience will be alternated with the presentation of design principles and the theoretical underpinnings of the scenario.

Support for Effective Guidance of Question-Driven Learning
Presenting Author: Harry Stokhof, HAN University of Applied Sciences, Netherlands

Student questioning is an important self-regulative strategy which has multiple benefits for teaching and learning. Teachers, however, need support to align student questioning to curricular goals. In this workshop participants will be introduced to the results of longitudinal design-based research: a principle-based scenario that supports teachers in guiding effective student questioning. In the scenario mind mapping is used to provide both structure to curricular content as well as support for student questioning. To raise multiple relevant questions about the core curriculum to be addressed, an adapted version of the Question Formulation Technique is applied. In this highly interactive workshop hands-on experience will be alternated with the presentation of design principles and the theoretical underpinnings of the scenario.

Sessions E 10

28 November 2019 08:00 - 09:30
Baer (Dorpat)
Workshop

Workplace learning

Learning in the helping professions. Handling the tension between performing and learning

Keywords: Corporate learning, Organisational learning, Problem Solving, Social interaction
Interest group: CLOUD 14 - Learning in Organisations

Although literature suggests helping is not only about solving problems but also about provoking learning processes, we don't know exactly what happens in the interaction between helper and client when it comes to learning. How does a helper make room for learning, not only for individual learning but also on an organizational level, and how does a helper know the solution is sustainable? Our research focusses on how management consultants handle the tension between performing (producing solutions) on the one hand and learning (developing people to solve their own problems) on the other hand. In the workshop we present findings of our research, we organize focusgroups of both practitionars and scholars, and we elaborate on what practitioners and scholars might learn from these findings.

Learning in the helping professions. Handling the tension between performing and learning
Presenting Author: Fer van den Boomen, The Hague University of Applied Sciences, Netherlands

Although literature suggests helping is not only about solving problems but also about provoking learning processes, we don't know exactly what happens in the interaction between helper and client when it comes to learning. How does a helper make room for learning, not only for individual learning but also on an organizational level, and how does a helper know the solution is sustainable? Our research focusses on how management consultants handle the tension between performing (producing solutions) on the one hand and learning (developing people to solve their own problems) on the other hand. In the workshop we present findings of our research, we organize focusgroups of both practitionars and scholars, and we elaborate on what practitioners and scholars might learn from these findings.

Sessions E 11

28 November 2019 08:00 - 09:30
Lithuania (VSpa)
Workshop
Workplace learning

A Journey to Student's Learning Path in Work-Based Learning

Keywords: Internships, Tutoring, Vocational education, Workplace learning
Interest group:

Development of Work-based Learning (WBL) is a European level interest, which calls for the practioners and researchers to combine their actions and finding both form research and practice. Especially the interest are laid on the demands for developing support for students in their learning at workplaces. In this workshop, we will focus on students' learning path in Work-Based Learning and the guidance needed. The workshop is organised using participatory methods in which the participants can share their knowledge and experiences and learn more from each others. We will also bring in experiences and knowledge from European funded projects related to Work-Based Learning and WBL-tutor skills.

A Journey to Student's Learning Path in Work-Based Learning
Presenting Author: Leena Kaikkonen, JAMK University of Applied Sciences, Finland; **Co-Author:**Irmeli Maunonen-Eskelinen, JAMK University of Applied Sciences, Finland; **Co-Author:**Ritva Ylitervo, JAMK University of Applied Sciences, Finland

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Sessions E 12

28 November 2019 08:00 - 09:30
Krause (Dorpat)
Workshop
Workplace learning

Learning, working & researching in cross-sector collaborations: which factors are essential?

Keywords: Collaborative Learning, Higher education, Knowledge Building and Development, Workplace learning
Interest group: CLOUD 05 - HRD & Workplace learning

Complex societal challenges demand cross-sectoral collaborations between governments, public-service organisations and higher education. Fontys University of Applied Sciences encourages new ways of collaborating with partner-organisations in authentic environments. In our Professional Workplaces (PW) professionals, students, lecturers and other stakeholders learn, research and work together to deliver services, improve professional practice and are physically located within public-service organisations. A study is undertaken to explore the inner workings or functioning of PW's.Based on literature and interviews, we developeda definition for PW that embraces an holistic perspective on cross-sectoral collaborations, and a theoretical model with six mutually related components. Centrally located is the 'primary process', namely collaborative learning, researching and working. This process happens in a development oriented culture focused on boundary crossing, and is facilitated by four components: collaborative directing and (re)organising, freeing up people and resources, forming and maintaining relationships, and leadership and autonomy. Our workshop provides an interactive way to exchange theoretical knowledge, evidence informed practice and good practices on cross-sectoral collaborations and hybrid learning environments. Participants will gain insight in the characteristics of PW and the essential components of these collaborations, while participants' feedback and experiences will be used for validating and improving the model.

Learning, working & researching in cross-sector collaborations: which factors are essential?
Presenting Author: Sofie Moresi, Fontys University of Applied Science, Netherlands; **Presenting Author:**Miranda Snoeren, Fontys University of Applied Sciences, Netherlands; **Co-Author:**Jeroen Bovens, Fontys Sporthogeschool, Netherlands

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improving the model.

Keynote speech by Prof. dr. Jean Murray 1

28 November 2019 09:45 - 10:45
Struve (Dorpat)
EAPRIL Keynote

Learning from the Past and Looking to the Future: Reconceptualising Practice-based Research?

Keywords: Practice-based research (methodology), Professional Development, Professional identity, Workplace learning
Interest group:
Chairperson: Rebecca Eliahoo, United Kingdom

This interactive presentation will analyse past and present manifestations of practice-based research in order to consider how the field might be reconceptualised and, ultimately, strengthened for the future. Of particular focus will be the use of various models of practice-based research to develop professional learning in the workplace, whether that workplace is in universities, schools or other educational / professional settings. I will argue that such a focus involves taking critical stances on practice and research as both individual and communal enterprises, with close relationships to developing forms of practitioner identity and agency. The presentation will also explore how practice-based research can promote and reconceptualise practitioner agency and its place in the mediation of change. Ultimately, this could offer the potential for the transformation of how practice and practice-based are understood and how we experience the workplace cultures in which they occur.

Learning from the Past and Looking to the Future: Reconceptualising Practice-based Research?
Presenting Author: Jean Murray, University of Eastern London, United Kingdom

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Sessions F 1

28 November 2019 11:15 - 12:45
Struve I (Dorpat)
EAPRIL Spotlight Session
Higher education

Transformative teacher education: bridging the gap between theory and reality of classrooms

Keywords: Continuing professional development in Teachers, In-service Teacher Training, Initial Teacher Education (Pre-service), Professional Development
Interest group: CLOUD 01 - Teacher education
Chairperson: Tom De Schryver, Netherlands

This session aims to address the issue of bridging the gap between theory and practice as the main challenges of effective teacher education and its impact on student outcomes.Research increasingly indicates that for teacher professional learning to be transformative it needs to be conducted within a positive, collaborative culture and include access to research theory and models, the opportunity to practice, receive low-risk constructive feedback and coaching and collegial support (Joyce & Showers, 2002). Practical barriers such as time, cost, and distance often undermine the routine observation, reflection, sharing of practice and feedback. The result of these challenges is the “professional development gap”: the chasm between the knowledge and skills provided in teacher education programmes and their successful implementation in the classroom where students can benefit from them. In this session we will share examples of how Teacher Education HEIs achieve this fusion of skills transfer, effective learning, knowledge building and sharing, in collaboration with the schools and supported by video collaboration technologies to remove the practical and cultural barriers to effective teacher education. We will also provide an opportunity for hands-on exploration of the platform that facilitates this effective professional learning.

Transformative teacher education: bridging the gap between theory and reality of classrooms
Presenting Author: Vesna Belogaska, IRIS Connect, United Kingdom

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Sessions F 2

28 November 2019 11:15 - 12:45
Peterson (Dorpat)
EAPRIL Spotlight Session
Higher education

A blended Master’s programme in Educational Technology

Keywords: Distance Education, Educational Technology, Higher education, Professional Development
Interest group: CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning
Chairperson: Manuel Peixoto, Portugal

The focus of the case study is the design and evaluation of an international one-year master’s program in Educational Technology. The program was launched by the University of Tartu in August 2017 in association with the other partners of the Erasmus+ project (Utrecht University, University of Riga). The programs’ goal is to support people who are already working as educational practitioners (e.g., teachers, school leaders) in making meaningful use of emerging educational technologies in their own educational practice. The aim of the presentation is two folded. Firstly, the rationale for the program design will be illustrated. The following topics will be approached: curriculum organization, integrating theory and practice, dealing with diversity, combing face-to-face and online activities (blended learning). Secondly, the underlying philosophy of the program evaluation will be discussed. That is, a rationale for the evaluation and the (preliminary) results - outcomes and implications for the program design - of the first two cohorts will be presented. Attending this case study session will

provide educational practitioners and policy makers the opportunity to have an in-depth discussion about the promises, perils, and pitfalls of a blended online master`s program.

A blended Master's programme in Educational Technology
Presenting Author:emanuele bardone, Institute of Education, University of Tartu, Estonia, Estonia; **Co-Author:**Bert Slof, Utrecht University, Netherlands; **Co-Author:**Olena Nedozhogina, Center for Applied Social Sciences (CASS), University of Tartu, Estonia

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Sessions F 3

28 November 2019 11:15 - 12:45
Finland (VSpa)
EAPRIL Cloud Spotlight Session

CLOUD 11 - Practice-based Research Methodology. Deepening our base together

Keywords: Inquiry learning, Organisation of educational research, Practice-based research (methodology), Research cooperation frameworks
Interest group: CLOUD 11 - Practice-based Research Methodology
Chairperson: Marco Mazereeuw, Netherlands
Chairperson: Lisette Munneke, Utrecht University of Applied Sciences, Netherlands

CLOUD 11 - Practice-based Research Methodology. Deepening our base together
Keywords: Inquiry learning, Organisation of educational research, Practice-based research (methodology), Research cooperation frameworks
Presenting Author: Niek van den Berg, Aeres University of Applied Sciences Wageningen, Netherlands

Practice-based research and practitioner research (PBR) are increasingly viewed as means to generate boundary practices that may close the gap between research and educational practice. According to the latest insights, the research should to this end be practically relevant, methodologically robust and ethically acceptable.In our view, the possibilities and persistent frictions of practice-based and practitioner research become apparent when looked at through a framework or lens in which the relevance, rigor and ethics of the study are interconnected. It is the knowledge about these possibilities and frictions that can serve as a basis for knowledge development on methodological issues in practice-based and practitioner research in cloud 11. In Cloud 11 Spotlight Session 1 in Tartu we therefore want to examine how we can develop knowledge in collaboration with the participants of the workshop. We opt for an open professional dialogue in which two or three invited case contributors put forward their authentic dilemma's and search for (innovative) ways to develop and share knowledge with the other participants, and the cloud coordinators.

Sessions F 4

28 November 2019 11:15 - 12:45
Pirogov (Dorpat)
EAPRIL Cloud Spotlight Session
Lifelong learning

CLOUD 12 - Leadership practices contributing to developing a learning culture

Keywords: Lifelong Learning, Primary school education, School Development, Secondary school education
Interest group: CLOUD 12 - Leadership in Education
Chairperson: Loes van Wessum, Windesheim Flevoland, Netherlands

CLOUD 12 - Leadership practices contributing to developing a learning culture
Keywords: Lifelong Learning, Primary school education, School Development, Secondary school education
Presenting Author: Anje Ros, Fontys University of Applied Sciences, Netherlands; **Presenting Author:**Wouter Schenke, Kohnstamm Institute, University of Amsterdam, Netherlands; **Presenting Author:**Patrick van Schaik, University of Amsterdam, Netherlands

Interactive Research and practice session Leadership practices contributing to developing a learning cultureWe will have a conversation about leadership practices contributing to the development of a learning culture in schools. We will start the first half hour by giving a brief overview about what we know form research. We will present different leadership practices which have been shown to be important in developing a learning culture. This part will be done by researchers who will also present results from their own research they conducted. School leaders will add on this presentation by giving concrete examples of leadership practices. In both parts it will be evident that leadership practices are influenced by the interaction between the context in which school leaders work and their personal features -their own knowledge, skills and believes After this central presentation participants will have a dialogue in round tables about leadership practices.

Sessions F 5

28 November 2019 11:15 - 12:45
Sweden (VSpa) - Table 3
Roundtable
Higher education

Creating Deep-level Learning Environments

Keywords: 21st century learning, Higher education, Instructional Design and Instructional Strategies, Professional Development, Professional identity, Project-based learning, Teacher thinking
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments
Chairperson: Ning Ding, Hanze University of Applied Sciences, Netherlands

Learning space design and engineering identity development of students in a PBL context
Keywords: 21st century learning, Instructional Design and Instructional Strategies, Professional identity, Project-based learning
Presenting Author: Alexandra BADETS, LINEACT, CESI, France

Previous studies on the impact of educational settings on students' professional identity formation showed how factors like room design and fluidity affect learners emotionally, influencing their motivation, engagement, interactions and performance. An ongoing study on an engineering school's project-oriented,

problem-based learning curriculum aims at analysing the interactions of different learning environment settings (furniture, access to interactive technology, room flexibility…) and students' personal characteristics on their engineering identity development. Students' engineering identity formation will be measured with the following indicators: the perceived and recognized acquisition of interpersonal, organisational and creativity skills, and overall student identification to engineering. Correlation tests and Multiple Correspondence Analyses are used to measure the mutual influences of three independent environmental variables (instrumentation, flexibility, and formality of the settings) and four independent personal variables (students' gender, expectations, previous experiences, representations on engineering). Data is collected from questionnaires to a cohort (n=59) in the programme. Qualitative data from focus groups and video recordings with a sample of 23 students will also be analysed. This article describes an attempt to draft a multifactorial model of interactions between environmental settings and personal characteristics on students' engineering identity formation.

21st century skills and development of teachers' expertise on flipped courses
Keywords: 21st century learning, Higher education, Professional Development, Teacher thinking
Presenting Author: Jenni Kankaanpää, University of Eastern Finland, Finland; **Co-Author:**Erkko Sointu, University of Eastern Finland, Finland; **Co-Author:**Teemu Valtonen, University of Eastern Finland, Finland

Digitalization and automatization, sustainability, economy, politics, and (in)equality shape societies, work, and lives of individuals both locally and globally. All these have their effects on education on all levels. According to international and national visions for education, higher education is expected to be of high quality, meet the needs set by work-life, requirements of life-long learning, and offer flexible ways to study. Blended learning and in this study Flipped Classroom (FC) are seen as solutions to mentioned challenges. Plenty of research has been conducted on students' perceptions and learning outcomes on FC courses, but less is known about teachers' perspectives. Improvement of teaching, and implementation of technology in teaching require professional development, awareness about learning methods, and possibly redesigning a course. Teaching staff in higher education has varied competencies and backgrounds, and changing the ways of teaching require support, time, and pedagogical thinking. The purpose of this study is the development and implementation of FC towards more student-centered learning. The aim is to help teachers to acknowledge their pedagogical reasoning and models, when implementing 21st century skills and technology in teaching. Design research will be used during the development process.

Sessions F 6

28 November 2019 11:15 - 12:45
Sweden (VSpa) - Table 5
Roundtable
Higher education

Monitoring and Evaluating Students' Learning Processes

Keywords: Assessment and evaluation, Higher education, Knowledge Building and Development, Meta-cognition and metacognive learning, Professional Development, Self-regulation and self-regulated learning, Writing
Interest group: CLOUD 10 - Assessment
Chairperson: Jaan Mikk, University of Tartu, Estonia

Mind the Gap: Strategies for self-monitoring. A conceptual framework and new findings.
Keywords: Assessment and evaluation, Higher education, Meta-cognition and metacognive learning, Self-regulation and self-regulated learning
Presenting Author: Jeroen van der Linden, HAN University of Applied Sciences, Netherlands; **Presenting Author:**Karin Kiewiet, HAN University of Applied Sciences, Netherlands; **Presenting Author:**Harry Stokhof, HAN University of Applied Sciences, Netherlands; **Co-Author:**Tamara van Schilt-Mol, Hogeschool van Arnhem en Nijmegen, Netherlands

*Mind the Gap: Strategies for self-monitoring. A conceptual framework and new findings.*Preparing for knowledge assessments is an important learning activity for students in Higher Education. However, how, and when students monitor their learning and which resources they use, is yet rarely studied. In this study, a conceptual framework is constructed which attempts to describe the (meta-cognitive) monitoring process of students when learning for knowledge assessments. The bases for this model were various theoretical frameworks combined with qualitative data from interviews with second and third year pre-service teachers. Transcripts of the interview are being analysed using a Grounded-Theory approach in Atlas-Ti 8. This resulted in a conceptual framework which can be used to map the monitoring of learning for knowledge assessments. During the round table session, both results from the literature and interview analyses, as well as the usability of the conceptual framework will be discussed.

The promoters and inhibitors during the student`s thesis process in social and health care
Keywords: Higher education, Knowledge Building and Development, Professional Development, Writing
Presenting Author: Ilkka Väänänen, Lahti University of Applied Sciences, Finland; **Co-Author:**Päivikki Lahtinen, Lahti University of Applied Sciences, Finland

The aim of the studies at the universities of applied sciences include basic, vocational and free-choice studies, as well as professional training and thesis. The purpose of this practice-based research is to study the holistic model of information processing during the thesis process from the perspective of bachelor and master students, their supervisors and the staff of the academic libraries. The central research question was to find out the factors which promote and inhibit the student`s thesis process. The data was collected from nineteen students and tree supervisors from the faculty of social and health care, and two supervisors from work place either by interviewing or by questionnaire. The discussions and open questions were analyzed qualitatively using the thematic analysis. Thesis is a complex task that has a discrete beginning and ending and that requires considerable professional construction and learning to be accomplished. The students engaged in thesis process holistically, with an interplay of thoughts, feelings and actions. There were three principles (searching, holistic experience, uncertainty in the initiation stage) in process, which can be perceived widely in other learning processes. The principle of uncertainty included six corollaries: process, formulation, redundancy, mood, prediction and interest.

Sessions F 7

28 November 2019 11:15 - 12:45
Sweden (VSpa) - Table 4
Roundtable
Higher education

Self-Assessment and Evaluation

Keywords: Assessment and evaluation, Higher education, Initial Teacher Education (Pre-service), Innovations in education, Practice-based research (methodology), Professional Development
Interest group: CLOUD 10 - Assessment
Chairperson: Wojciech Czart, Poland

Expert validation of a self-evaluation tool focusing on assessment programmes
Keywords: Assessment and evaluation, Higher education, Innovations in education, Practice-based research (methodology)
Presenting Author: Liesbeth Baartman, Utrecht University of Applied Sciences, Netherlands; **Co-Author:**Wendy Peeters, Universiteit Utrecht / Hogeschool Utrecht, Netherlands; **Co-Author:**Ellen de Kwant, Universiteit Utrecht / Hogeschool Utrecht, Netherlands

Based on previous research on programmatic assessment, we developed a self-evaluation tool to help teacher teams evaluate and improve the quality of their assessment programme. An assessment programme comprises the diversity of (formative and summative) assessment methods within a ba/ma-course. The

self-evaluation tool focuses on five quality criteria: fitness for purpose, validity, learning function, decision function and conditions. We developed open discussion questions and a rubric with practical descriptions to facilitate team discussions. We aim to carry out and expert validation of the tool developed (the quality criteria, the open questions and the rubric). This roundtable addresses our struggle to find a suitable method for this expert validation. We explored several options, such as concept maps, individual/group interviews and Delphi methods. The validated tool aims to help teacher teams to (also) focus on the assessment programme as a whole, instead of just on single assessments within isolated courses.

Online Self-Assessments in Teacher Education – Practices at German Universities and Students' Views
Keywords: Assessment and evaluation, Higher education, Initial Teacher Education (Pre-service), Professional Development
Presenting Author: Jorg Holle, Westfälische Wilhelms-Universität Münster, Germany

In recent years, due to a recommendation by the standing committee of the German ministers of culture (Kultusministerkonferenz, KMK) in 2013, a growing number of universities installed online self-assessments (OSA) for prospective students in order to a) inform them about the requirements of theirs studies and the teaching profession, b) instigate a process of self-reflection about the person-job-fit and c) try to assess students' prerequisite for successful studies. While research has focused on a) compiling a list of universities using OSA (Nieskens and Demarle-Meusel 2013, Nieskens 2016), b) describing and evaluating the most common OSA (Rothland and Tirre 2011, Rothland 2013) or c) individual reports by universities about their experiences (Boeger 2016, Faust et al 2003), little to none can be found about the strategy behind the use of OSA and more important the students' view on this topic. The presented study is a dissertation project in progress. It is conducted with mixed methods (desktop analysis, expert interviews, questionnaires)

Sessions F 8

28 November 2019 11:15 - 12:45
Lithuania (VSpa)
Present & Discuss
Higher education

Students' Development in Higher Education

Keywords: Assessment and evaluation, Beliefs and conceptions of learning, Beliefs and conceptions of teaching, Collaborative Learning, Curricula, Higher education, Innovations in education, Learning styles / approaches, Medical & health education, Practice-based research (methodology)
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 04 - Improving learning and well-being, CLOUD 10 - Assessment
Chairperson: Sisko Mällinen, Finland

The perceptions of students and teachers of the honours programme of THUAS
Keywords: Beliefs and conceptions of learning, Beliefs and conceptions of teaching, Higher education, Innovations in education
Presenting Author: Janine Haenen, The Hague University of Applied Sciences, Netherlands

The Hague University of Applied Sciences (THUAS) offers an interdisciplinary open structured honours programme that is designed by both teachers and students in co-creation. In this research project we explored the experiences of students and teachers with the learning activities. Our focus was on the differences and similarities between the perceptions of both teachers and students and how they could be explained.
Students and teachers of two consecutive years participated in a storyline research in which they rated each session (-5 to +5) regarding the challenge students experienced, how much students learned and how able students perceived themselves or how able teachers perceived the students to fulfil the learning activities. Both students and teachers explained their rating. Besides descriptive statistics for the quantitative data a grounded approach for the qualitative data was used. We concluded that students and teachers highly differ in the extent that they perceived the learning activities of such an open structure programme as challenging, and how much students learned. This difference was somewhat less regarding students' ability. In addition, the explanation of teachers and students stressed different aspects. These explanations give ample starting points to establish an open structure programme that balances out challenge and ability.

Human impact assessment of video use in education
Keywords: Assessment and evaluation, Collaborative Learning, Higher education, Practice-based research (methodology)
Presenting Author: Mirva Hyypiä, Lappeenranta - Lahti University of Technology LUT, Finland; **Presenting Author:**Satu Parjanen, Lappeenranta-Lahti University of Technology LUT, Finland; **Co-Author:**Helinä Melkas, Lappeenranta University of Technology, Finland

Human Impact Assessment (HuIA) offers a framework to assess technology use from the human perspective. It is not restricted to any particular technological application or field of implementation. HuIA has common roots with environmental impact assessment (EIA) and belongs to the same "assessment family" that has in recent years been advocated by the European Commission. HuIA is a user-centred approach that clarifies the impacts of different actions and options, providing information for decision-making and helping to deal with conflicts. According to earlier research, regular human impact assessment of new technologies at individual and community levels may stimulate their adoption by various groups of people.Information technology usage is a multi-faceted process, in which both internal and external factors should be taken into account. Infrastructure and training of the personnel may be significant external factors in technology integration, whereas internal factors may refer to characteristics of the personnel and the educational organization. Students' perceptions and experiences of the integration of information technology into education have not received extensive research attention, even though those may be crucial, too. In addition, there may be several other stakeholders involved, and HuIA has the potential to make various relevant groups' perspectives visible.

The Effect of "How to Learn" Module on Students Learning Approaches
Keywords: Curricula, Higher education, Learning styles / approaches, Medical & health education
Presenting Author: Sevgi Turan, Hacettepe University Faculty of Medicine, Turkey; **Co-Author:**Sevim Bürge Çiftçi Atılgan, Hacettepe University Faculty of Medicine, Turkey; **Co-Author:**Bilge Tuncel, Hacettepe University Faculty of Medicine, Turkey

In line with the recommendation of the medical education organizations, many medical schools aim to improve students learning skills and develop educational program. "How to learn" module was developed and implemented in "Becoming Physician" program in 2016-17 academic year in Hacettepe University Faculty of Medicine in order to improve students' learning skills. The effect of the learning module on the students' learning skills was examined in this study.First-year medical students in 2017–2018 academic year were participated. Students completed the Approaches and Study Skills Inventory for Students before and after the program. In the study, the difference was found in the learning approaches of first-year medical students before and after the learning module. In most of the subscales students mean score of deep and strategic learning approaches were decreased while surface approaches were increased after the module. When students' attendance of the module was examined it was found that strategic approaches scores of students who were not attend the sessions were lower. Teaching preference of students was not differed before and after the module or according to their attendance.

Sessions F 9

28 November 2019 11:15 - 12:45
Estonia + Latvia (VSpa)
Present & Discuss
Higher education, Workplace learning

Collaborative Learning in Organisations

Keywords: Cognitive Skills & Development, Collaborative Learning, Corporate learning, Higher education, Innovations in education, Knowledge Building and Development, Problem Solving, Professional Development, Team Learning

Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 14 - Learning in Organisations
Chairperson: Essi Vuopala, University of Oulu, Finland

Teacher Design Teams as a strategy to (re)design learning environments: crucial conditions
Keywords: Collaborative Learning, Innovations in education, Professional Development, Team Learning
Presenting Author: Lieke Lochten, Artesis Plantijn University College, Belgium; **Co-Author:**Silke Plaetinck, Artesis Plantijn University College, Belgium; **Co-Author:**Magda Mommaerts, Artesis Plantijn University College, Belgium

Caused by our rapidly changing society, school innovations and teachers' professional development have become an ongoing process in today's higher education. Knowing that top-down and disconnected initiatives are not effective to achieve sustainable innovations, the current study introduces Teacher Design Teams (TDTs) as a more promising way to effectively tackle educational challenges. TDTs are defined as groups of teachers who analyse, design, develop, implement and evaluate curriculum materials and learning environments together (Handelzalts, 2009). Previous research has identified enhancing and impeding factors for successful and effective TDTs. The current study builds on this research by aiming at confirming previously identified conditions as well as exploring new ones. A qualitative approach was taken. Data was gathered from participants and TDT-coaches through reflections and semi-structured interviews. Besides confirming earlier findings, results demonstrate the importance of team characteristics such as team history. Moreover, results pointed towards the added value of exploring process variables into more detail. Findings resulted in the construction of the 5P-model for TDTs as a framework for practice and further research.

Knowledge innovation in self-directed communities of practice: a shared mental models approach
Keywords: Cognitive Skills & Development, Collaborative Learning, Corporate learning, Knowledge Building and Development
Presenting Author: Fer van den Boomen, The Hague University of Applied Sciences, Netherlands; **Co-Author:**Rainer Hensel, The Hague University,, Netherlands; **Co-Author:**Peter-Jan Boers, Federal Police Netherlands, Netherlands

The relevance of the variables of the shared mental models framework (SMM) for the collaborative knowledge innovation process in small teams was studied. These SMM variables are: 1) quality of emerging individual visions, 2) conflict solving and 3) elaborating the emerged knowledge structure. The impact of these three SMM variables on two dependent variables was analyzed: 1) the perceived strength of the co-creation process, and II) the final team vision.
The model revealed, that the effect of individual visions on the final team vision was completely mediated by conflict solving, the second phase in the model. This implicates, for having an positive impact on the perceived strength of the process, individual visions should be intensively debated during a cognitive conflict phase. A strong perceived co-creation process positively impacts the quality of the final team vision. Elaborating on the emerging knowledge structure, a third phase in in the model, partially mediated the effect of conflict solving. However, the impact of the elaboration phase has a negative, hampering effect on the perceived strength of the co-creation process.
A cross validation, using data form an entrepreneurial context, supported the indirect effect of individual visions on the perceived strength of the process.

Boundary crossing in the context of addressing wicked problems in Higher Professional Education
Keywords: Collaborative Learning, Higher education, Innovations in education, Problem Solving
Presenting Author: Marieke Veltman, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**Joke Voogt, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**Hanno Van Keulen, Windesheim Flevoland University of Applied Science, Netherlands

As the connectedness of our world increases, more problems with wicked tendencies are generated, which call for professionals so search for ways to connect and mobilize themselves across practices. This study aims to generate design principles for the design of educational practices that will foster students' learning at boundaries in the context of addressing problems with wicked tendencies. It draws upon a set of conjectures for design principles of a previous study by the authors. This study applied a multiple case study design addressing six practices in Higher Professional Education (HPE). The research question was: which characteristics of a pedagogical design enhance learning of students in HPE in terms of the learning mechanisms of boundary crossing in the context of wicked-problem-solving? Data were derived from document study, semi-structured interviews, and observations. The study yielded design principles for the design of practices that result in wicked problem solving expertise concerning the nature of problems and the enhancement of learning efforts at boundaries. These design principles address the collaboration across boundaries at both interpersonal and intrapersonal level, the use of boundary objects and brokers, the challenge of balancing and leveraging constructive tension, and the focus on learning and encouragement of formative behaviour.

Sessions F 10

28 November 2019 11:15 - 12:45
Parrot (Dorpat)
Poster Presentation
Higher education, Lifelong learning, Vocational education

Enhancing 21st Century Skills

Keywords: 21st century learning, Beliefs and conceptions of learning, Collaborative Learning, Competence-based education, Educational Effectiveness and quality of education, Higher education, Innovations in education, Labour market & formal learning, Practice-based research (methodology), Problem-based learning, Professionalisation of educators, Qualitative and Quantitative Approaches to Learning and Instruction, Research-based learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 05 - HRD & Workplace learning, CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning, CLOUD 07 - Research impact on school development
Chairperson: Ellen Daniëls, KU LEUVEN, Belgium

Entrepreneurial Competencies in Creative Specialties as a Key to Regional Specialization
Keywords: 21st century learning, Educational Effectiveness and quality of education, Higher education, Qualitative and Quantitative Approaches to Learning and Instruction
Presenting Author: Tiiu Männiste, University of Tartu, Estonia

In 2015, the University of Tartu Viljandi Culture Academy was the first in the Estonian educational system to implement obligatory entrepreneurial studies across all programs (Rõigas et al, 2016). The experience across several years provides an opportunity to analyze to what extent the entrepreneurial competencies merge with the creative courses and how successful has been relating the university to the society as well as regional entrepreneurship through mentoring and supervision.
The presentation analyzes, based on qualitative content analysis, the learning outcomes relating to entrepreneurial competence and study formats that develop creative entrepreneurship in the diploma study programs as well as broader regional collaboration in relation to entrepreneurial studies.The research results so far enable us to claim that the insufficient ties between the outcomes of the creative courses and the courses developing entrepreneurship at the Academy, and the culture supporting entrepreneurship have not been formed into an integrated whole. The uneven exercising of entrepreneurial discourse across courses may also demonstrate the inertia of lecturers in integrating the competency supporting entrepreneurship in their particular courses. This indicates a need for analysis within the region, most importantly in the Academy and eventually within the whole educational landscape. *Keywords:* entrepreneurial studies, entrepreneurial competencies, creative specialties

Supporting learner autonomy for work readiness
Keywords: Beliefs and conceptions of learning, Collaborative Learning, Innovations in education, Problem-based learning
Presenting Author: Timo Halttunen, University of Turku, Finland; **Co-Author:**Anders Karkov, Erhvervs Akademi Sydvest, Denmark; **Co-Author:**Leena Erälinna, University of Turku, Finland; **Co-Author:**Christian Ribeiro Maagard Dragin-Jensen, Erhvervs Akademi Sydvest, Denmark

Meaningful learning is often viewed as working-life oriented or industry-relevant learning. Based on a concern of graduate employability, teachers, educational

institutions and students alike are called for work-life ready, autonomous and self-directed learning. But how do teachers script engaging learning processes that support development of agency? What constitutes an industry-relevant learning process?
Based on cases from Finland, Denmark and the UK, the researchers study teacher and learner strategies in creative problem solving. In specific, the study aims at exploring how teachers and learners determine the right problem to solve and how to solve it. Inspired by a design thinking process, the focus is on emphasizing with customer needs, defining a problem and ideating to solve the problem. By an action research approach, we observe and interview teachers and learners on their process of meaning making in finding their strategies. With table analysis, we aim to identify general and contextual factors supporting learner autonomy and agentic learning. Hence, the notion of meaningful learning is studied from the perspective of how teachers and learners co-create a learning processes that aim at supporting better understanding of the needs of the customer and strategies for solving their problems.

Skills Navigator: Enhancing 21st century skills
Keywords: 21st century learning, Competence-based education, Labour market & formal learning, Practice-based research (methodology)
Presenting Author: Elena Van den Broeck, Artesis Plantijn University College Antwerp, Belgium

The impact of new evolutions in society on jobs is undoubtedly high. One way to prepare young people and employees for the changing labour demands is to invest in the development of 21st century skills (De Vos & Gielens, 2016; Hawksworth, Berriman, & Goel, 2018). The project 'Skills Navigator' wants to contribute to an optimal skillsmatch between labour demand and supply in all economic sectors of the Flemish-Dutch Delta in order to better utilise labour potential. The main question is: Which 21st century skills are needed in all economic sectors, now and in the near future? This project aims to encourage to build bridges between education and the labour market. Data was gathered via desk research, sematic analysis of vacancies and a survey to and focus groups with relevant stakeholders such as employers, HR officers and employment service organisations. They note a high need for the development of skills and indicate a shared responsibility: all stakeholders, such as educational institutions, the government and the youngsters themselves, play an important role in the optimal skillsmatching. Via the output, we want to inform all stakeholders and raise the awareness for more attention to the skills shift and the skills development in education.

Can every student become a digital information professional?
Keywords: 21st century learning, Educational Effectiveness and quality of education, Professionalisation of educators, Research-based learning
Presenting Author: Kimberly Verhaest, Howest - dept eduaction, Belgium; **Co-Author:**Wouter De Meester, Howest University College, Belgium

This practice-based educational research investigates how digital information research skills can be better supported and facilitated within course units and embedded throughout the curriculum. Our target audience consists of digital natives (Prensky, 2001). The digital aspect of these skills is emphasized as the primary research activities of our audience take place online. Within our university college, differences in background and previous education clearly influence these online literacy and reading. Teachers observe an extremely heterogeneous population in their classes, and acknowledge that they have to rethink their way of support on the subject of doing research. Recent research also indicates that students find it difficult to select, evaluate and process information (Clemens, 2014). We use a bottom-up approach to improve the digital skills of students as well as lecturers, as both these groups tend to overestimate their digital research skills (Wan, 2011; Pynoo & Kerckaert, 2013). While 21st century skills are valued highly and digital research skills are clearly part of this skill set, teachers experience difficulty with incorporating digital proficiency in their classes. We have constructed a framework, inspire – learn & test – reflect, in which we integrate tools and good practices. We suggest learning trajectories to incorporate in the curriculum.

Sessions F 11

28 November 2019 11:15 - 12:45
Lobby Room (VSpa)
Case study
Workplace learning

Learning at the Workplace

Keywords: 21st century learning, Diversity, Higher education, Inclusivity, Knowledge Management for Teaching & Learning, Workforce diversity & equality, Workplace learning
Interest group: CLOUD 08 - Diversity & equality in different contexts, CLOUD 14 - Learning in Organisations
Chairperson: Karin Diemel, Fontys University of Applied Sciences, Netherlands

Developing a conceptual framework to facilitate person-centered learning in the workplace.
Keywords: Diversity, Inclusivity, Workforce diversity & equality, Workplace learning
Presenting Author: Nick Gee, Birmingham City University, United Kingdom

The Faculty of Health, Education and Life Sciences at Birmingham City University has in excess of 3,500 Undergraduate students who have a recognised disability or long-term health condition. 90% of programmes taught within the Faculty lead to the award of a licence to practise with the public and therefore involve work placements as part of the assessed curriculum.
Effectively matching each student to an appropriate work place to gain this exposure and to develop their practical skills is challenging. The conceptual framework and Placement Action Plans discussed in this case study have been effective in streamlining this process through greater collaboration with workplace partners, promoting emotionally intelligent discussion and gaining greater insight as to the requirements of all stakeholders. The creation and implementation of these Placement Action Plans has enabled students to be placed in settings appropriate not only to their needs but also to the needs of those in their care. Attainment levels have increased and attrition statistics reduced.

Workbased learning in a professional bachelor programme
Keywords: 21st century learning, Higher education, Knowledge Management for Teaching & Learning, Workplace learning
Presenting Author: Muriel De Wolf, University College Ghent, Belgium

In 2016-2017 the professional bachelor in elektromechanics at Ghent University College developed a workbased learning trajectory in the third (and final) year of the programme in collaboration with Siemens nv. A limited number of students was given the opportunity to finalise their educational programme in a real company instead of in school. They followed trainings, cooperated on several projects and finished their bachelor thesis in the workplace. It proved to be a stimulating en rewarding trajectory for students, company and educational institution. Student could use and put into practice all their required knowledge and skills in an authentic environment. The company had the opportunity to seize talent from a very early stage (before finisching their education) and the bachelor programme had - through the collaboration with innovating and leading companies - acces to the latest technologies. Since then the professional bachelor invests in extending workplace trajectories in different companies, for more students in all specializations. However, with extending the scope of the project, the progamme is faced with several practical restrictions.

Sessions F 12

28 November 2019 11:15 - 12:45
Baer (Dorpat)
Workshop
Vocational education

Strengthening vocational didactic skills in teacher education

Keywords: Curricula, Initial Teacher Education (Pre-service), Teaching approaches, Vocational education
Interest group: CLOUD 01 - Teacher education

As teacher training institute we educate young people to become a teacher for secondary education in different subjects (e.g. mathematics, languages, history, geography, economics, biology, and physical sciences). These programs not only qualify for a job as a teacher in academic tracks but also prepare for vocational tracks, the latter being pre-vocational and vocational education. As almost half of the Dutch children enrol in the vocational track, a career as a teacher in vocational education is thus an important option for our students. However, still a majority of our student teachers opt for a career in academic tracks. Also the content of the teacher training curriculum is more focused at preparing our students for the academic track. Therefore, more attention for vocational education in general and a more focus explicit on teaching methodologies that are directed towards vocational education are needed in our teacher training curriculum. Over the last years we developed a number of approaches to strengthen the knowledge and skills on vocational teaching methodologies. In this workshop we will share two specific methods/approaches and let participants experience how we try to better prepare our students for a career in vocational education.

Strengthening vocational didactic skills in teacher education
Presenting Author: Ellen Leenaarts - Gunnewijk, Hogeschool van Arnhem en Nijmegen (HAN), Netherlands; **Presenting Author:**Roel Grol, HAN, Netherlands; **Presenting Author:**Aimée Hoeve, HAN University of Applied Sciences, Netherlands

As teacher training institute we educate young people to become a teacher for secondary education in different subjects (e.g. mathematics, languages, history, geography, economics, biology, and physical sciences). These programs not only qualify for a job as a teacher in academic tracks but also prepare for vocational tracks, the latter being pre-vocational and vocational education. As almost half of the Dutch children enrol in the vocational track, a career as a teacher in vocational education is thus an important option for our students. However, still a majority of our student teachers opt for a career in academic tracks. Also the content of the teacher training curriculum is more focused at preparing our students for the academic track. Therefore, more attention for vocational education in general and a more focus explicit on teaching methodologies that are directed towards vocational education are needed in our teacher training curriculum. Over the last years we developed a number of approaches to strengthen the knowledge and skills on vocational teaching methodologies. In this workshop we will share two specific methods/approaches and let participants experience how we try to better prepare our students for a career in vocational education.

Sessions F 13

28 November 2019 11:15 - 12:45
Krause (Dorpat)
Workshop
Early childhood education

Steer-your-play: improving the quality of make-believe play and the role of the teacher

Keywords: Beliefs and conceptions of teaching, Early childhood education, In-service Teacher Training, Self-regulation and self-regulated learning
Interest group: CLOUD 04 - Improving learning and well-being

Research state that mature make-believe play is an excellent manner to improve self-regulation within children (Berk and Meyers, 2013; Leong and Bodrova, 2012). It helps them to develop good executive functions, which play a key-role not only in learning and lifelong achievement, but also in quality of life (Diamond, 2013).However, when we look in classrooms, there seems to be a wide variety in the quality of make-believe play. Teachers don’t always seem to know (1) how to rate the play in their classroom and (2) how to improve the quality. As Singer e.a. (2015) pointed out, teachers’ interaction style is decisive.In this workshop, we aim to understand the development of make-believe play and the key-role of self-regulation. We will use video recordings to look and argue the quality, both for practical and for research questions. Secondly, we will do some role play exercises to try to understand what it means when an adult intervenes in a play. A tool we developed to play along, helps us to focus on self-regulation during our interventions. We explore the potential uses of it as a tool for teachers’ video-training.

Steer-your-play: improving the quality of make-believe play and the role of the teacher
Presenting Author: Ilse Aerden, UCLL, Belgium

Research state that mature make-believe play is an excellent manner to improve self-regulation within children (Berk and Meyers, 2013; Leong and Bodrova, 2012). It helps them to develop good executive functions, which play a key-role not only in learning and lifelong achievement, but also in quality of life (Diamond, 2013).However, when we look in classrooms, there seems to be a wide variety in the quality of make-believe play. Teachers don’t always seem to know (1) how to rate the play in their classroom and (2) how to improve the quality. As Singer e.a. (2015) pointed out, teachers’ interaction style is decisive.In this workshop, we aim to understand the development of make-believe play and the key-role of self-regulation. We will use video recordings to look and argue the quality, both for practical and for research questions. Secondly, we will do some role play exercises to try to understand what it means when an adult intervenes in a play. A tool we developed to play along, helps us to focus on self-regulation during our interventions. We explore the potential uses of it as a tool for teachers’ video-training.

Best Research & Practice Project Award Session 1

28 November 2019 13:45 - 15:15
Struve (Dorpat)
Best Research & Practice Project Award 2019
Higher education, Primary education

Best Research & Practice Project Award 2019

Keywords: 21st century learning, Cognitive Skills & Development, Competence-based education, Deep-level and profound learning, Early childhood education, Game-based learning / Gamification, Higher education, In-service Teacher Training
Interest group: CLOUD 04 - Improving learning and well-being
Chairperson: Martijn Willemse, Windesheim University of Applied Sciences, Netherlands

MusicMath Methodology: a creative / innovative approach for teaching and learning mathematics
Keywords: Cognitive Skills & Development, Deep-level and profound learning, Early childhood education, Game-based learning / Gamification
Presenting Author: Eric Roldan Roa, University of Tartu, Estonia. MusicMath, Mexico; **Co-Author:**Erika Roldán Roa, The Ohio State University, United States; **Co-Author:**Aldo Antonio Martínez Chávez, MusicMath, Mexico

Mathematics are a powerful tool for describing the phenomena and situations we observe and live, including art. The goal of MusicMath is to teach mathematics through music and vice versa. A foundational element in creating this project was the necessity of turning a math classroom into a creative non-conventional space. MusicMath was created by combining the minds of a mathematician and a music producer.For the last three years, MusicMath’s methodology has been successfully implemented in elementary and secondary schools in one of two ways: full year companionship or periodic reinforcement workshops. Several kinds of workshops, activities and games have been design and created since then.One example of MusicMath´s workshops is "Musical Monkeys". This game was originally designed for helping elementary students practice their math concepts and decipher musical rhythms by playing a board game. This format has proven to be engaging and fun for them. This game was the subject of a multidisciplinary PhD thesis supervised by the departments of mathematics and pedagogy at

the University of Belgrade. The workshops were given in two schools during the month of December 2018 with positive and exciting results.

Competence Oriented Teaching and Learning in Higher Education - Essentials
Keywords: 21st century learning, Competence-based education, Higher education, In-service Teacher Training
Presenting Author: Heinz Bachmann, University of Teacher Education Zurich, Switzerland

*We're drowning in information and starving for knowledge.Rutherford D. Rogers*More and more people suffer under a never-ending increase of information. They are looking for orientation and strategies to reduce complexity. Higher education teaching is not an exception in this regard. What is just a passing fashionable trend? What does really matter in teaching? Or more specific: What does a teacher in higher education in today's globalized and rapidly changing world need to be successful? Based on 40 years of teaching experience in different contexts in Switzerland and abroad (including 20 years in higher education) an attempt was made to summarize the essentials with a focus on learner orientation. A model will be introduced (GUCK) to capture the critical elements together with a selection of needed competences. Additionally, material will be presented that help higher education teachers in acquiring the needed teaching skills. A self-study guide for higher education teachers. A flyer with 7 dimensions of excellent teaching and learning in higher education for teachers and students. An online tutorial how to formulate competence-oriented learning outcomes.

Sessions G 1

28 November 2019 15:45 - 17:15
Pirogov (Dorpat)
EAPRIL Spotlight Session
Secondary education

Formulating the model of the new learning paradigm taking Tartu Forselius School as an example

Keywords: Educational Effectiveness and quality of education, Innovations in education, Secondary school education, STEM
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments
Chairperson: Manuel Peixoto, Portugal

Tartu Forselius school in collaboration with the University of Tartu and Science Centre AHHAA are developing the model of AHHAA-like school. The aim of the cooperation is to stimulate the learning process and to develop the learning environment in a way which supports the improvement of the academic results through the following skills and attitudes: (1) inquiry-based learning skills, (2) problem-solving skills, (3) critical thinking, (4) positive attitude towards science, (5) self-directed learning, (6) collaborative learning. In addition, the aim of the implementation of the model is to increase the motivation, interest, and dedication to learning, more specifically to science and mathematics. The goal of the workshop is to work out the characteristics of the AHHAA-like school by different stakeholders in various fields.

Formulating the model of the new learning paradigm taking Tartu Forselius School as an example
Presenting Author: Mirjam Burget, University of Tartu, Estonia; **Co-Author:**Kristi Mumm, Tartu Forselius School, Estonia

Tartu Forselius school in collaboration with the University of Tartu and Science Centre AHHAA are developing the model of AHHAA-like school. The aim of the cooperation is to stimulate the learning process and to develop the learning environment in a way which supports the improvement of the academic results through the following skills and attitudes: (1) inquiry-based learning skills, (2) problem-solving skills, (3) critical thinking, (4) positive attitude towards science, (5) self-directed learning, (6) collaborative learning. In addition, the aim of the implementation of the model is to increase the motivation, interest, and dedication to learning, more specifically to science and mathematics. The goal of the workshop is to work out the characteristics of the AHHAA-like school by different stakeholders in various fields.

Sessions G 2

28 November 2019 15:45 - 17:15
Finland (VSpa)
Symposium
Higher education

Alignment between Job Market and Higher Professional Education in The Netherlands

Keywords: Economy education, Higher education, Labour market & formal learning, Vocational education, Workplace learning
Interest group:
Chairperson: Ning Ding, Hanze University of Applied Sciences, Netherlands
Discussant: Jan Liefers, Hanze University of Applied Sciences, Netherlands

From a Dutch university of applied sciences, three education practitioners will present their research on alumni, curriculum design and cooperation model with job market and governments. The research methodology includes secondary data collection and analysis and semi-structured interviews. The findings show that (1) knowledge of higher education graduates may not directly applied at workplace, but there is a 10 up to 15-year delay; (2) taking finance education as an example, the largest gap exists in the ICT technology. It indicates that the job market requires more updated IT skills while higher education hasn't taken it into current curriculum design yet. (3) the triple helix model is highly recommended to bridge the gap between employers' expectations and the education design with the support of local governments.

Discrepancies between employer requirements and higher education curriculum
Presenting Author: Shu-Fen Lee, Hanze University Groningen. University of Applied Sciences, Netherlands

The changing nature of finance work has been stressed in many previous studies because of the rapid development of information technology and more internationalized business environment. Higher professional education such as university of applied sciences (UAS) is supposed to be in line with this trend. However, relevant research is scant especially in the Netherlands. We take finance education UAS as an example to explore the alignment between job requirements for UAS graduates and the education practices in UAS. 150 vacancy descriptions are collected from the most popular job-hunting website, monsterboard.nl. Findings are categorized into three domains: (1) financial knowledge, (2) IT skills, and (3) soft skills. Subsequently, a questionnaire was sent to the education practitioners in three Dutch UAS to collect their opinions towards the sufficiency of graduates' competence in finance/accounting. The most obvious gap is found in IT skills. Dutch higher professional education tends to ignore the training of accounting software which are frequently required by employers. Besides, although most finance and accounting knowledge has been covered in the professional education, a systematic framework is hardly instilled. Students tend to have fragmented knowledge and are not competent to handle with complex and dynamic business problems.

Career Path of International Business Graduates from 1995 till 2018
Presenting Author: Ning Ding, Hanze University of Applied Sciences, Netherlands; **Co-Author:**Jan Liefers, Hanze University Groningen. University of Applied Sciences, Netherlands

This symposium consists of three practitioners' research on the Dutch job market and the higher education curriculum design, governments' support and alumni's trend. The main research question is whether there exists a deficiency between the requirements in job market and the higher education output. The secondary data analysis and semi-structured interviews are employed to achieve the research goal. It is found that (1) knowledge of higher education graduates may not directly applied at workplace, but there is a 10 up to 15-year delay; (2) taking finance education as an example, the largest gap exists in the ICT

technology. It indicates that the job market requires more updated IT skills while higher education hasn't taken it into current curriculum design yet. (3) the triple helix model is highly recommended to bridge the gap between employers' expectations and the education design with the support of local governments.

Triple Helix Model to Resolve the Misalignment in Labour Market
Presenting Author: Jan Liefers, Hanze University of Applied Sciences, Netherlands; **Co-Author:**Goitzen Veenstra, Hanze University Groningen. University of Applied Sciences, Netherlands

Triple helix (TH) is a concept that describes how government, academia, and companies are genuinely involved to generate new institutional formats for innovations (Etzkowitz, 2006). The current study aims at (1) finding out the discrepancies of the construction sector, and (2) seeking the strategic application of Triple Helix Model to resolve the misalignment in labor market.This case study employs an exploratory qualitative design using semi-structured interviews. Eight participants from SME's, two participants from educational organizations and two experts from the government were purposively selected based on their knowledge and working experiences. The findings show that the shortage on the labor market keeps increasing due to the low inflow and high outflow in the construction sector. Moreover, the interviewees reflect that newly graduates tend to be too theoretically educated, especially in higher education. In sum, SMEs do not have such strategic plans and show their reluctancy due to limited short-term profits.

Sessions G 3

28 November 2019 15:45 - 17:15
Struve I (Dorpat)
Symposium
Vocational education

Preparing VET-students for a dynamic future. Content and methodology of practice based research

Keywords: 21st century learning, Curricula, Instructional Design and Instructional Strategies, Language Education, Organisation of educational research, Practice-based research (methodology), Research cooperation frameworks, Vocational education
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 11 - Practice-based Research Methodology
Chairperson: Niek van den Berg, Aeres University of Applied Sciences Wageningen, Netherlands
Organiser: Niek van den Berg, Aeres University of Applied Sciences Wageningen, Netherlands
Organiser: Arjen Nawijn, Aeres University of Applied Sciences, Netherlands
Organiser: Lara Meijer, Clusius College Alkmaar, Netherlands
Organiser: Arjan van der Meijden, Kohnstamm Instituut, Netherlands
Discussant: Alberto Cattaneo, Swiss Federal Institute for Vocational Education and Training, Switzerland

We compare two independent researches in Dutch schools for vocational education and training (VET), both facing similar substantive and methodological challenges. 1) A consortium of four agricultural VET schools and four research institutes worked together on issues regarding future perspectives and related skills of students. What are those 'future perspectives', which skills are being trained to prepare students, how do schools go about this, with what result? 2) A similar consortium is focussing on the use of language in the actual job situation, and preparing students for that in a school setting. Central research questions are; what language requirements do employers formulate and how does VET anticipate on these requirements? Again, schools provided cases that differed extremely in shape, size and content. Varying from teaching basic communication skills to prospect lorry drivers, to training high skilled prospect ICT professionals to articulate clients' needs. Both studies found a common thread in their divergent cases, using robust instruments and methods that were applicable in varied contexts. Nearly each case in both studies reported positive results on the interventions. However, each case also reported a very specific context, that leads to the question if and how comparisons and generic knowledge can be generated.

Futures of students as focus in vocational education
Presenting Author: Arjan van der Meijden, Kohnstamm Instituut, Netherlands; **Co-Author:**Birgit Schalkwijk, Terra, Netherlands

A consortium of four institutions for agricultural ('green') vocational education and four research institution (each VET-school linked to one of the research institutions), investigated the 21st-century skills that students need to be well prepared for their future prospects. Each VET-school submitted its own future-oriented case. Each case investigated which future prospects are envisaged and which 21st-century skills are required to develop. The development of these skills by the cases was monitored using pre- and post-measurement. Despite the different future perspectives for each case and therefore a different approach, it can be concluded that students can best prepare themselves for the uncertain future by learning to be flexible and to develop their adaptability. The development of the associated 21st-century skills that were monitored in the four cases do not show any major growth, this was also not expected due to the relatively short duration of the research project. However, it can be concluded that the instruments -developed by the consortium- provided the four schools with tools to ensure that education can be better aligned with the intended future perspective, and that the progress of 21st-century skills can be monitored more systematically.

Research on researchers and teacher-researchers collaborating in practice based research
Presenting Author: Arjen Nawijn, Aeres University of Applied Sciences, Netherlands; **Co-Author:**Niek van den Berg, Aeres University of Applied Sciences Wageningen, Netherlands

In practice based research, in order to realize both revenues for educational practice and science, collaboration and dialogue between researchers and practitioners is crucial. Research into the collaboration of researchers and teacher-researchers conducting practice-based research (see contribution 1) investigates the ways the collaboration in the project takes shape, and how it develops during the project. Selfreports, (group)interviews and audits have been used for data collection. The results show that the collaboration in the project is dynamic and takes different forms in the subcases in the project. The researchers and teacher-researchers use different research capacities and interactive transdisciplinary capacities in their collaboration. This monitoring of collaborative research empowered the practitioners in the project, and could inspire others.

Language requirements on the labour market, and how to train the language competences
Presenting Author: Arjan van der Meijden, Kohnstamm Instituut, Netherlands; **Co-Author:**Lara Meijer, Clusius College Alkmaar, Netherlands; **Co-Author:**Anke Herder, Rijksuniversiteit Groningen, Netherlands

This practice-based study by a consortium of four VET-schools and two research institutions examines which language competencies are required in the dynamic labour market and which training practices contribute to the ability of training teams to respond to the demands of the dynamic labour market. The following questions are central to this. (1) What language requirements does the professional field set for entry into the labour market and in the longer term? And how can training programs be set up in such a way that the language competences they apply meet these requirements? (2) What practices do the training teams have for developing responsive vocational education? Which gaps can be identified in these training practices? And what improvements does the redesign of these training practices lead to? The schools provided cases that differed (extremely) in shape, size and content. Also the focus within each case varied, from teaching communication skills to prospect lorry drivers, to training high skilled prospect ICT professionals to articulate clients' needs. A common thread in the four divergent cases is found in using robust instruments and methods that are applicable in varied contexts.

Sessions G 4

28 November 2019 15:45 - 17:15

Peterson (Dorpat)
Present & Discuss
Higher education

Future Educational Challenges and Development

Keywords: 21st century learning, Curricula, Educational Effectiveness and quality of education, Higher education, Innovations in education, Leadership development, School Development
Interest group: CLOUD 07 - Research impact on school development
Chairperson: Haske van Vlokhoven, HAN University of Applied Sciences, Netherlands

Sustainable Development in Higher Education
Keywords: 21st century learning, Curricula, Higher education, Innovations in education
Presenting Author: Mervi Friman, Häme University of Applied Sciences, Finland

Higher education institutes (HEIs) have made a deep commitment to prioritize sustainable development (SD). This case study took place at F University, Brazil, and at H University, Finland. The following topics were studied: (1) whether there are international and national SD steering policies that might be relevant to HE development in these particular countries; (2) whether this steering has impacted HEI's own SD policy and steering; (3) whether such in-house operations are affecting SD content in curricula; and (4) how a pedagogic approach influences the incidence of SD-oriented content at the bachelor's degree. The analysis were done by both qualitative and quantitative methods. It was concluded that differences in national SD steering policy and pedagogical approach in the HEI led to divergent curricula structures in relation to the volume of the SD education. In addition, there were large variations in the level of SD integration between degree programs within both universities. Observed variation may indicate that other drivers are also important to the integration of SD issues in education. Regardless of such a divergence, an appropriate balance between epistemic and ethical SD competences should be guaranteed in studies.

Responsive schools: how do schools cope with future challenges?
Keywords: Higher education, Innovations in education, Leadership development, School Development
Presenting Author: Bert van Veldhuizen, Hogeschool van Amsterdam, Netherlands; **Co-Author:**Anne Eggink, Amsterdam University of Applied Sciences, Netherlands; **Co-Author:**Reet Sillavee, Tallinn University, Institute of Educational Sciences, Estonia; **Co-Author:**Alexandra Totter, Paedagogiische Hochschule Zürich, Switzerland; **Co-Author:**Simona Marti, Paedagogische Hochschule Zürich, Switzerland; **Co-Author:**Marco Snoek, Hogeschool van Amsterdam, Netherlands

Education is facing challenges due to local or global developments in society (OECD, 2016). In the international exchange program Education for the Future (E4F) teachers and principals enrolled in a master degree program, inquire and discuss these challenges. Schoolshave to be able to adapt to these challenges. Goodlad (1975) introduced the concept of responsive schools. Since then, the concept has mainly been used regarding schools' and teachers' adaptiveness to the differences between pupils in their classrooms. However, we define responsive schools as schools that are able to detect change in society and are hereof open to changes, challenges and opportunities in school, community and society and adapt pro-actively their work in response to these changes, challenges and opportunities. Together with students from four countries we investigate the way individual teachers, teacher teams and schools cope with external challenges. What makes some schools more responsive than others? We asked the participants in the program to describe a major change in their own school and, the forces which caused this change. We analysed the role teachers, teacher teams, principals and other stakeholders played in this change. In this session we will present results from Estonia, Switzerland and the Netherlands..

Get ready for a smart world: development of a vision for future-proof education
Keywords: Curricula, Educational Effectiveness and quality of education, Higher education, School Development
Presenting Author: Jolise 't Mannetje, Saxion University of Applied Sciences, Netherlands; **Presenting Author:**Kariene Woudt-Mittendorff, Saxion University of Applied Sciences, Netherlands; **Co-Author:**Irene Visscher, Saxion University of Applied Sciences, Netherlands; **Co-Author:**Amber Kornet, Saxion University of Applied Sciences, Netherlands; **Co-Author:**Lud Overkamp, Saxion University of Applied Sciences, Netherlands

One of the tasks for higher education is to prepare students for their role in a changing world and to stimulate them to develop broader skills than only specific competencies in their own discipline. In order to strengthen the impact of the educational programs to do so, Saxion University of Applied Sciences developed a new vision for future-proof education. To develop such a new vision, data were collected to answer the following questions: 1) What are -according to students- key ingredients of future-proof education? 2) What are ingredients of current Saxion courses that are perceived as good practices of future-proof education? 3) What are – according to the literature – key ingredients of future-proof education? Data were collected through interviewing students and teachers, a literature study and document analysis. The vision that has been formulated, based on these data, has been structured by the curricular spiderweb (Van den Akker, 2003). The main rationale is: Get ready for a smart world. Some key-elements are: students will build on craftsmanship with their own profile, focus on current topics from professional practice, teachers are expert and coach, students will learn in communities, and development-centred assessments.

Sessions G 5

28 November 2019 15:45 - 17:15
Ewers (Dorpat)
Workshop
Higher education

Arts based research, giving a voice to the voiceless

Keywords: At-risk students, Diversity, Inclusivity, Practice-based research (methodology)
Interest group: CLOUD 11 - Practice-based Research Methodology

This workshop reflects on conventional research methods and how they fail to give marginalized groups recognition. The words co-creation and participatory research are often misused in the social sciences to obscure projects as research. By doing Research with vulnerable groups, using less conventional methods and more arts based research designs, which are tailored to meet the needs of participants, will empower them and facilitate their active engagement in research. By doing so, you will be able to give them a voice (Fleming, Goodman Chong, & Skinner, 2009; Lushey & Munro, 2015) In this workshop we focus on a number of arts based research methods in which participants manage to work as equal researchers. Arts based research is often done with children (Holt, 2004), but other groups can also benefit from these methods. We work on the basis of a number of examples to demonstrate the added value of arts based research methodology in the social sciences. The participants in this workshop should have no specific skills. By participating, they can sample a number of examples and learn to work with one of the three methods.

Arts based research, giving a voice to the voiceless
Presenting Author: Elke Emmers, UCLL, Belgium

This workshop reflects on conventional research methods and how they fail to give marginalized groups recognition. The words co-creation and participatory research are often misused in the social sciences to obscure projects as research. By doing Research with vulnerable groups, using less conventional methods and more arts based research designs, which are tailored to meet the needs of participants, will empower them and facilitate their active engagement in research. By doing so, you will be able to give them a voice (Fleming, Goodman Chong, & Skinner, 2009; Lushey & Munro, 2015) In this workshop we focus on a number of arts based research methods in which participants manage to work as equal researchers. Arts based research is often done with children (Holt, 2004), but other groups can also benefit from these methods. We work on the basis of a number of examples to demonstrate the added value of arts based research methodology in the social sciences. The participants in this workshop should have no specific skills. By participating, they can sample a number of

examples and learn to work with one of the three methods.

Sessions G 6

28 November 2019 15:45 - 17:15
Struve II (Dorpat)
Workshop
Vocational education

"EducOpera" European Erasmus+ Project

Keywords: Competence-based education, Culture and Education, Lifelong Learning, Music & Arts Education
Interest group:

This workshop suggests to discuss the outcomes of a European project- the EDUCOPERA project. It has designed a tool & process(portfolio) and mentoring for teachers to bridge non-formal learning outside school, and formal learning within school. In particular a focus was made on competences acquired through education to Opera activities as an example of extracurricular activity. First a tool & process(portfolio) to validate competences acquired through voluntary action was designed. This tool consists of a detailed step-by-step approach that is based on a pedagogy of formative assessment of students competences. The European framework of Key competences for lifelong learning is used as a basis for the pedagogical approach. Second a mentoring for teachers to apply these validated competences in a context of classic formal education was developed. This mentoring includes a modular approach in order to tailor teacher professional development to the needs of the teachers involved.

"EducOpera" European Erasmus+ Project
Presenting Author:Bénédicte Halba, iriv conseil, France; **Co-Author:**Marco Bartolucci, Università di Perugia, Italy

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Sessions G 7

28 November 2019 15:45 - 17:15
Krause (Dorpat)
Workshop
Higher education

Mapping Safe Uncertainty in Learning

Keywords: Deep-level and profound learning, Innovations in education, Self-regulation and self-regulated learning, Well-being and engagement
Interest group: CLOUD 04 - Improving learning and well-being

In this workshop we will address the concept of Safe Uncertainty in our educational practice. Students encounter uncertainty during their learning processes. This can be obstructive and even create anxiety, but when enough safety is experienced students will be able to handle this uncertainty in a productive manner. During this workshop, we will share insights on Safe Uncertainty that are the result of our practice based research. We also aim to generate awareness of the importance of uncertainty in learning. Via process mapping and the application of educational tools that are the result of our research on Safe Uncertainty, the participants will become acquainted with the concept in itself, gain insight in their own uncertainty experience, and learn how to apply this in their own educational practice.

Mapping Safe Uncertainty in Learning
Presenting Author: Stijn Bollinger, Hogeschool Utrecht (University of Applied Sciences Utrecht), Netherlands; **Presenting Author:**Ritie van Rooijen, Hogeschool Utrecht, Netherlands

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Sessions G 8

28 November 2019 15:45 - 17:15
Lithuania (VSpa)
Workshop
Higher education

Emergent pedagogy in technology-rich learning spaces

Keywords: 21st century learning, Educational Technology, Higher education, Innovations in education
Interest group: CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning

Learning spaces, and especially technology-rich learning spaces, have the potential to change the way education is currently designed. The increased international focus on learning spaces encouraged us to investigate the Dutch baseline in technology-rich learning spaces in Higher Education based on the research questions: Do Higher Education institutes in the Netherlands invest in technology-rich learning spaces, and if so, how many of these spaces are currently available in the institutes and how are these spaces currently being utilized in education, and what pedagogical and technical support is offered to teachers to encourage them to use these spaces? In this workshop participants will be informed about our baseline measurement of technology-rich learning spaces in Higher Education institutes the Netherlands. Participants are actively taking part of the workshop through discussing cases in groups classified as implementers, pioneers, decisionmakers, or developers. Each case will be introduced through a video clip and participants can share the results of the discussions in an online environment. These results will be presented and discussed plenary during the workshop.

Emergent pedagogy in technology-rich learning spaces
Presenting Author: Jos Fransen, Inholland University of Applied Sciences, Netherlands; **Co-Author:**Estella Griffioen, Inholland University of Applied Sciences, Netherlands

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Sessions G 9

28 November 2019 15:45 - 17:15
Sweden (VSpa)
Workshop
Higher education

HOW SUSTAINABLE DEVELOPMENT STRATEGIES ARE IMPLEMENTED IN HIGHER EDUCATION DEVELOPMENT?

Keywords: Higher education, Organisational learning, Peer Interaction / learning, Training and Development
Interest group:

Higher education institutions have a focal role in implementing global sustainable development goals through education of future professionals.The national implementation of UN Agenda2030 (UN, 2015) has brought sustainable development aims in higher education institution strategies. The practical implementation is seen in learning contents, pedagogy and learning environments, learning outcomes and societal transformation (UNESCO, 2014).This workshop was developed to help higher education institutions to implement their sustainable development strategies by helping educators and educational developers to understand different viewpoints of education for sustainable development (EDS).The aim of the workshop is to present the working method through a hands-on experience. The similar workshop has been held in the Finnish educational developer and educator context. In the workshop we share the experience of the prior workshop.

HOW SUSTAINABLE DEVELOPMENT STRATEGIES ARE IMPLEMENTED IN HIGHER EDUCATION DEVELOPMENT?
Presenting Author: Jenni Koponen, Metropolia University of Applied Sciences, Finland

Higher education institutions have a focal role in implementing global sustainable development goals through education of future professionals.The national implementation of UN Agenda2030 (UN, 2015) has brought sustainable development aims in higher education institution strategies. The practical implementation is seen in learning contents, pedagogy and learning environments, learning outcomes and societal transformation (UNESCO, 2014).This workshop was developed to help higher education institutions to implement their sustainable development strategies by helping educators and educational developers to understand different viewpoints of education for sustainable development (EDS).The aim of the workshop is to present the working method through a hands-on experience. The similar workshop has been held in the Finnish educational developer and educator context. In the workshop we share the experience of the prior workshop.

Sessions G 10

28 November 2019 15:45 - 17:15
Baer (Dorpat)
Case study
Higher education

Professionalisation in Pre-service Teacher Education

Keywords: Assessment and evaluation, Higher education, Initial Teacher Education (Pre-service), Internships, Professional Development
Interest group: CLOUD 01 - Teacher education, CLOUD 10 - Assessment
Chairperson: Marco Mazereeuw, Netherlands

Promoting the quality of peer feedback in teacher education
Keywords: Assessment and evaluation, Higher education, Initial Teacher Education (Pre-service), Professional Development
Presenting Author: Diana Baas, Hogeschool De Kempel, Netherlands; **Co-Author:**Jos Castelijns, Hogeschool De Kempel, Netherlands; **Co-Author:**Rianne de Pooter, Hogeschool de Kempel, Netherlands

Peer feedback is believed to enhance the involvement of students in the assessment process and is an important catalyst for self-regulated learning. Peer feedback can be defined as “a communication process through which learners enter into dialogues related to performance and standards” (Liu & Carless, 2006). Engaging learners in defining assessment criteria and applying these to the work of peers can lead to enhanced learning. Especially providing feedback to peers is beneficial as it engages students in critical thinking and through this, it results in an improvement in the quality of their own work (Nicol, Thomson & Breslin, 2014). While the added value of peer feedback is recognized, embedding this in ongoing classroom practice is not self-evident. Teachers, as well as students need to be supported in developing the necessary habits and skills to do so. We present a case study on the integration of peer feedback in teacher education.

The re-organization of a pre-service teachers’ practicum course: lessons learned
Keywords: Higher education, Initial Teacher Education (Pre-service), Internships, Professional Development
Presenting Author: Pihel Hunt, University of Tartu, Estonia; **Co-Author:**Katri Kütt, University of Tartu, Estonia; **Co-Author:**Äli Leijen, University of Tartu, Estonia

In teacher education, practice plays a central role in supporting prospective teachers’ learning and professional development. We report on a case study carried out in the University of Tartu, Estonia. This case study involved the re-organization of teacher education practicum course based on a framework by Grossman and colleagues (2009) and Grossman, Hammerness and McDonald (2009). This framework is focused on core practices enabling the pre-service teachers to observe their mentors’ performance, rehearse the most important professional activities that teachers in the workplace carry out and reflect on these experiences with their mentors and peers or independently. This framework also implies a strong integration between practice and theoretical studies. In order to understand the experiences of different stakeholders throughout the change, data were collected from pre-service teachers, mentors and university staff. This case study discusses the benefits and challenges of the re-organized practicum course.

Sessions G 11

28 November 2019 15:45 - 17:15
Parrot (Dorpat)
Case study
Higher education, Secondary education

Technology Enhanced Learning

Keywords: Cognitive Skills & Development, Educational Technology, Higher education, In-service Teacher Training, Peer Interaction / learning, Reading, School Development
Interest group: CLOUD 04 - Improving learning and well-being, CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning
Chairperson: Helga Aadland, Norway

Efficiency of a speed reading course using computer software
Keywords: Cognitive Skills & Development, Educational Technology, Higher education, Reading
Presenting Author: Jaan Mikk, University of Tartu, Estonia; **Co-Author:**Marten Siiber, University of Tartu, Estonia; **Co-Author:**Sven Aller, University of Tartu, Estonia

Learning speed reading has been effective in some studies (Gao et al., 2018; Yen, 2012) but some researchers are sceptical about it (Rayner et al., 2016). The aim of our case study was to help students to acquire skills of speed reading using software. Computer applications for speed reading present texts and measure reading speed (AceReader (2019; ReadSpeeder, 2019). Our software puts questions about text content also, shows the percentage of correct answers, etc. The software was used in a course with 38 students. The course included 16 hours of class work and 30 hours of independent training. The exercises in the course were aimed at reducing regressions, reading by word groups, shortening the duration of fixations, focussing the attention, using memorisation techniques. During the course, the average reading speed increased from 226 words to 251 words per minute. Text comprehension raised from 55% to 67%. The improvement of reading efficiency can be explained by acquiring new reading habits, by better concentration of attention, by individual feedback, etc. It is not clear which course setting is the most effective in learning speed reading. Is practicing with several types of exercises better than practicing with one type of exercise?

Doedactiek
Keywords: Educational Technology, In-service Teacher Training, Peer Interaction / learning, School Development
Presenting Author: Francine Behnen, NHL Stenden, Academie Educatie vo & mbo, Netherlands; **Co-Author:**Marielle Kuijper, Windesheim University of Applied Science, Netherlands

Laurillard (2002) expected technology (ICT) in class to have communicative, interactive, and adaptive advantages on pedagogy. Recently, teachers using tablets perceived changes in the way of interacting with students and choices of learning activities (Pareja Roblin et al., 2018). However, teachers are also observed to use the communicative (C) aspects of Technology (T) less than the informative (I) aspects (Heitink, Voogt, Verplanken, Van Braak, & Fisser, 2016). These findings indicate that ICT can evoke pedagogical changes in teaching and learning but that not all teachers know how.

In a Professional Learning Community (PLC) that started in 2014, teachers (n=7) from different schools and subjects with an interest in the pedagogical use of ICT worked together to develop new ways of learning and teaching with technology and spread the findings amongst colleagues. The PLC had monthly live meetings led by two teacher trainers. In between, spontaneous peer contacts took place regularly. All monthly meetings were recorded and reflected on by the teacher trainers. Main conclusion: ICT interested teachers enjoy working together and develop ICT skills and new ways of learning and teaching. Teachers require a practical way to share and spread acquired expertise, knowledge and ideas within the school.

Sessions G 12

28 November 2019 15:45 - 17:15
Estonia + Latvia (VSpa)
Case study
Vocational education

Vocational Education

Keywords: Collaborative Learning, Competence-based education, Cooperative learning, Educational Effectiveness and quality of education, Professional Development, Vocational education, Workplace learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments
Chairperson: Zarina M. Charlesworth, Switzerland

Lifelong learning and excellence demands efficient collaboration between the world of work and VET
Keywords: Competence-based education, Educational Effectiveness and quality of education, Vocational education, Workplace learning
Presenting Author: Pirjo Tuominen, Hämeen ammattikorkeakoulu/Häme University of Applied Sciences, Finland; **Presenting Author:**Tuomas Eerola, Häme University of Applied Sciences, Finland

Many skills competition actors think that competitions are a powerful tool to develop vocational education and training and vocational teachers´ competence. In Finland, the new legislation on upper secondary vocational education and training will reinforce professional skills. The most important task of Vocational Education and Training (VET) will be to produce individual skills that meet the needs of students and the world of work. Individual study paths would be created and learning occurring at workplaces would be increased. The reform also challenges teachers´ guidance skills in a new way.
The Finnish Academy for Skills Excellence (FASE) has been gathering experiences from the teachers who brought their students to the skills competitions for many years. One factor in the latest survey (2019) for the VET-teachers (N 139), is to clarify how the world of work is supporting students. FASE is a partner in ERASMUS+ X-FACTORS- project consortium where the same topic is under research.
One reference for this study is the Vocational Teacher´s Excellence Framework by Mahlamäki-Kultanen 2016. In the line with the Framework teachers' competences, like networking locally and internationally, mentoring, mental training, own field specific competences, etc. are mentioned by the teachers in the survey.

Communities of Practice improve educational practice in VET
Keywords: Collaborative Learning, Cooperative learning, Professional Development, Vocational education
Presenting Author: Jantje Timmerman, mboRijnland, Netherlands; **Presenting Author:**Erica Pot, mboRijnland, Netherlands; **Co-Author:**Kathinka van Doesum, mboRijnland, Netherlands

mboRijnland is a VET-school where 1.000 teachers educate 17.000 students in various vocational and educational tracks. An increasing number of teachers obtain a Master's degree, but they often don't get the chance to use their new knowledge and skills to improve their own working environment. Research Lab mboRijnland (a research group in VET) started a project with Communities of Practice (CoP) in order to stimulate these teachers to put their knowledge into practice. These CoPs consist of teachers and students who work together as equal partners to improve their study. Together they choose a specific theme on which they will work on for school year. In the CoP they acquire specific expertise concerning this theme. They systematically look at the problem with an action research-based approach, which will improve their research skills. They also learn to share their new knowledge in an appealing way, for example by using vlogs.

Sessions G 13

28 November 2019 15:45 - 17:15
Lobby Room (VSpa)
Case study
Higher education, Secondary education

Instructional Innovative Approaches

Keywords: 21st century learning, Collaborative Learning, Game-based learning / Gamification, Problem-based learning, Secondary school education, Teaching

approaches, Vocational education, Well-being and engagement
Interest group: CLOUD 04 - Improving learning and well-being
Chairperson: Nanke Dokter, Fontys HKE, Netherlands

The problematization in professional education integrated to secondary education
Keywords: Problem-based learning, Secondary school education, Vocational education, Well-being and engagement
Presenting Author: Robson Felix, Instituto Federal de Educação, Ciência e Tecnologia de Mato Grosso do Sul, Brazil; **Co-Author:**Paulo Henrique Azuaga Braga, Federal Institute of Education, Science and Technology of Mato Grosso do Sul, Brazil; **Co-Author:**Flávio Rocha, Federal Institute of Education, Science and Technology of Mato Grosso do Sul, Brazil

The present case study describes a project that seeks to promote inspiring and innovative pedagogical changes in integrated technical education at the secondary level in the Brazilian educational context. Beginning in 2013, a methodological proposal for the students' problem-solving about the problems and challenges faced daily in the context was initiated by two teachers of physical education at the Federal Institute of Education, Science and Technology of Mato Grosso do Sul (IFMS). The strategy of collaborative resolution of local problems sought to align with the issues of global educational change. The design of the project includes two years of dialogic mediation during regular classes and at specific times of attendance with students in problem identification, scientific approach and learning by practicing in collaborative projects. This strategy has shifted from traditional content-based and teacher-centered learning to active, student-centered and competency-based learning in the curriculum and school culture. The project also encourages teacher integration through multidisciplinary learning, and collaborates with the growing economies in the training of subjects who will enter the world of work with 21st century skills: critical thinking, collaboration and social awareness.

Playing the game - forgetting it's a game - learning – forgetting it’s a lesson.
Keywords: 21st century learning, Collaborative Learning, Game-based learning / Gamification, Teaching approaches
Presenting Author: Natalie Sarrasin, HES-SO Valais / University of Applied Sciences & Arts Western Switzerland, Switzerland; **Co-Author:**Mélanie Bonvin, Ecole Hôtelière de Lausanne, Switzerland; **Co-Author:**Beverley Todeschini, HES-SO Valais / University of Applied Sciences &Arts Western Switzerland, Switzerland

This case study focuses on the possibility of increasing the motivation of students by playing a serious business game over a 40-hour intensive week at a business school. This activity is part of a process of questioning teachers, based on the work of Brew (2011): does this pedagogical practice effectively support student learning, should it be encouraged and renewed, in which conditions? Does this practice strengthen the 21st skills of our students? Does it bring the industry and academia closer?The game was played during the last week of the students' inter-semester break. Two distinct student populations participated in the game: the former were obliged to participate in this business game because it was part of their study plan and the latter chose this option, among others in order to obtain ECTS credits. The results show the similarities and differences between these two populations.Several teachers of different subjects were involved and played the role of experts in the game and external professionals were involved to make the game more realistic (they played their own role). Two evaluations were conducted to measure the effectiveness of the process. They show that this learning style was effective and appreciated by students.

Sessions H 1

28 November 2019 17:30 - 19:00
Finland (VSpa)
EAPRIL Cloud Spotlight Session

CLOUD 7 - Building a knowledge infrastructure to enhance research impact on school development

Keywords: Knowledge Building and Development, Organisation of educational research, Research cooperation frameworks, School Development
Interest group: CLOUD 07 - Research impact on school development
Chairperson: Linda Sontag, NWO, Netherlands
Chairperson: Anje Ros, Fontys University of Applied Sciences, Netherlands

CLOUD 7 - Building a knowledge infrastructure to enhance research impact on school development
Keywords: Knowledge Building and Development, Organisation of educational research, Research cooperation frameworks, School Development
Presenting Author: Anje Ros, Fontys University of Applied Sciences, Netherlands; **Presenting Author:**Linda Sontag, NWO, Netherlands

Education prepares students for a permanently changing society. Schools are urged to innovate and change to meet these societal and technological developments. To make grounded choices for innovations they need to use actual knowledge and research results. Therefore a well-organised national knowledge infrastructure is needed. A knowledge infrastructure is called the whole of structural organisations and services that enhance the development and application of (research) knowledge in educational practice.In this Spotlight Session we will explore the following question: What are the ambitions concerning a knowledge infrastructure in different countries and which solutions, instruments or interventions are proposed to reach these ambitions? As an example we will present the ambitions of the national infrastructure and a proposal for a national action plan of the Netherlands that is developed by a national project group in which all educational sectors are represented.In this session we will actually construct an ideal knowledge infrastructure, using real ‘building blocks’.

Sessions H 2

28 November 2019 17:30 - 19:00
Pirogov (Dorpat)
EAPRIL Cloud Spotlight Session

CLOUD 8 - Who cares for the Teachers? - Teacher's and Lecturer's wellbeing in challenging times

Keywords: Continuing professional development in Teachers, Culture and Education, Well-being and engagement, Work environments
Interest group: CLOUD 08 - Diversity & equality in different contexts
Chairperson: Nick Gee, Birmingham City University, United Kingdom

CLOUD 8 - Who cares for the Teachers? - Teacher's and Lecturer's wellbeing in challenging times
Keywords: Continuing professional development in Teachers, Culture and Education, Well-being and engagement, Work environments
Presenting Author: Anthony Thorpe, University of Roehampton, United Kingdom; **Presenting Author:**Eila Burns, JAMK University of Applied Sciences, Jyväskylä, Finland; **Co-Author:**Kaija Peuna-Korpioja, JAMK University of Applied Sciences, Finland

This workshop seeks to discuss teaching practice across a variety of settings, exploring the impact of challenges upon the physical and emotional health and wellbeing of Teachers and Lecturers. Teachers worldwide face many challenges, conflicting priorities and benchmarks to measure performance. Most of these factors are focused on the achievement, progression, fulfilment, and wellbeing of learners but little is formalised to ensure the wellbeing of the Teachers themselves. Building on existing research into Teacher’s resilience (Gumbrell, 2019; Allen, 2018; Johnson et al, 2015) and further to previous Cloud 8 sessions, this workshop facilitates much needed discussion to secure professional and peer support. Taking an honest and open look into the world of the Teacher across different settings and contexts, the varied and considerable demands on Teacher’s time, expertise, energy and goodwill to deliver the highest standard of education will be discussed. Participants in this emotionally intelligent and supportive workshop will explore dilemmas and challenges raised and will be facilitated to discuss, if they wish, any personal experiences or other cases which they are aware of in their own context and settings. We hope to stimulate discussion amongst professionals leading to further questions which will inform future work within the Cloud.

Sessions H 3

28 November 2019 17:30 - 19:00
Lobby Room (VSpa)
EAPRIL Cloud Spotlight Session
Higher education

CLOUD 9 - Towards dialogical-integrative methods and concepts with music, sound and arts

Keywords: 21st century learning, Creativity, Culture and Education, Music & Arts Education
Interest group: CLOUD 09 - Sounds & Arts in Transversal Learning
Chairperson: Kaarina Marjanen, Laurea UAS, Finland

CLOUD 9 - Towards dialogical-integrative methods and concepts with music, sound and arts
Keywords: 21st century learning, Creativity, Culture and Education, Music & Arts Education
Presenting Author: Hubert Gruber, Pädagogische Hochschule NÖ / University College of Teacher Education Lower Austria, Austria

The publication of the “Road Map for Arts Education” was created in Lisbon (March 6-9, 2006), with this Map as a framework and a result of the conference “Building Creative Capacities for the 21st Century”. It is more than official, that the encounter and engagement with music and art should also form a phenomenal ground for our education. It supports us in passing on deep-level meanings, with core concepts for learning and teaching, as a necessity for dialogues with and through music, fine arts, applied or performing arts or modern digital art forms, among others. These aspects and approaches will be presented and discussed about during this Cloud 9 Spotlight Symposium, particularly valuing the importance of dialogical-integrative learning with and through music and art. Exclusive learning and teaching with music and arts can also be found at the approaches of integrative dialogues. However, we are convinced that there are several other aspects, ways and approaches to find. On one hand, we want to introduce some of them, to discuss about. On the other hand, we want to warmly welcome anyone to present other concepts and methods that are of a particular importance for the presenter in this context.

Sessions H 4

28 November 2019 17:30 - 19:00
Parrot (Dorpat)
EAPRIL Cloud Spotlight Session

CLOUD 12 - An international perspective on the professional development of school leaders

Keywords: Leadership development, Leadership styles, Lifelong Learning, Professional Development
Interest group: CLOUD 12 - Leadership in Education
Chairperson: Loes van Wessum, Windesheim Flevoland, Netherlands

CLOUD 12 - An international perspective on the professional development of school leaders
Keywords: Leadership development, Leadership styles, Lifelong Learning, Professional Development
Presenting Author: Ellen Daniëls, KU Leuven, Belgium; **Presenting Author:**Wouter Schenke, Kohnstamm Institute, University of Amsterdam, Netherlands; **Presenting Author:**Eve Eisenschmidt, Tallinn University, Estonia; **Presenting Author:**Jan Heystek, North-West University, South Africa; **Presenting Author:**Leezan van Wijk, SRVO, Netherlands

The literature on leadership in education provides an insight in the practices of leadership in education (Leithwood, 2012) and recognizes school leaders' influence on student learning (May, Huff & Goldring, 2012) and the overall performance of the organization. However, less is known about school leaders’ professional development and the impact of it (Leithwood, 2019; Van Wessum & Verheggen, 2019). During this spotlight session, four presenters from Estonia, Flanders, the Netherlands and South Africa will provide a lay of the land of the existing knowledge about continuous professional development (CPD) of leaders in education in their research fields. Finally, the session will culminate in a discussion about the current practices and future approaches of research on leaders’ professional development. The discussion themes are actual performances, policy and organization, content and techniques and impact and outcomes of CPD. To initiate a meaningful discussion, researchers and policy makers having expertise in the domain of leadership in education, will be invited to attend and participate in the session. The aim of the session is to arrive at ideas to improve theory building about continuous professional development of leaders in education and to launch a research agenda for this highly relevant topic.

Sessions H 5

28 November 2019 17:30 - 19:00
Baer (Dorpat)
EAPRIL Cloud Spotlight Session

CLOUD 13 - Jump in!: round tables on research ideas and designs

Keywords: Doctoral education (PhD education), Organisation of educational research, Practice-based research (methodology), Training of young researchers
Interest group: CLOUD 13 - Starting Researchers
Chairperson: Pieter Seuneke, Aeres University of Applied Sciences Wageningen, Netherlands

CLOUD 13 - Jump in!: round tables on research ideas and designs
Keywords: Doctoral education (PhD education), Organisation of educational research, Practice-based research (methodology), Training of young researchers
Presenting Author: Wilbert van der Heul, Albeda, Netherlands

EAPRIL 2019 is the second year of Cloud 13: the ‘starting researchers’ cloud’. This cloud is meant to become a vibrant international network for starting, practice-based researchers (from all ages), in the field of (innovation in) learning (learning occurring in different contexts as well as at different levels).
In this Cloud 13 spotlight session, a series of round tables will be held. As this is an ‘open session’, starting practice-based researchers can ‘jump in’ and share, test and explore their current research ideas, ambitions and dilemma’s with peers. The round tables are being supervised or guided by more experienced researchers from the EAPRIL network. The session offers participants a low threshold opportunity to explore and present their current research ideas, deepen their knowledge on practice-based research methodology as well as finding their way into becoming a practice-based researcher.

Sessions H 6

28 November 2019 17:30 - 19:00
Peterson (Dorpat)
Present & Discuss
Higher education, Vocational education

Blended Learning

Keywords: 21st century learning, Blended learning, Collaborative Learning, Higher education, Learning styles / approaches, Mentoring, Professional Development, Professionalisation of educators
Interest group: CLOUD 02 - Educators' professional development, CLOUD 03 - Strategies to improve teaching and learning environments

Chairperson: Quinta Kools, Fontys Hogescholen, Netherlands

Continuing education of teachers: the importance of mentoring in hybrid education
Keywords: 21st century learning, Blended learning, Collaborative Learning, Mentoring
Presenting Author:MARIA IVANILDA SIMOES DE CAMARGO, Instituto Federal de Educacao, Ciência e Tecnologia, Brazil; **Co-Author:**Laryssa Amaro Naumann, Instituto Federal de Educação, Ciência e Tecnologia do Mato Grosso do Sul, Brazil

Given the need to create flexible learning spaces for the 2018 teacher training course REDE-MAES, opted for the blended-learning learning model. Twenty students-teachers have developed face-to-face activities and 15 online activities, all interlinked, in order to create a curriculum for themselves and for their own students-teachers. Online activities comprised a flexible curriculum. This paper is part of an action research that has been developing since 2017 titled Implication of implementation of Active Methodology in Twenty-first century Education. In this paper we aim to analyze how the process of mentoring these online activities took place and how teachers-students participated in the course with hybrid teaching and learning in the flexible curriculum. We understand as the main point of this experience the cohesion between online and face-to-face activities and we find criticism of mediation along online activities beyond the initial orientation.

Professional development: measuring the impact on students and teachers
Keywords: Blended learning, Higher education, Professional Development, Professionalisation of educators
Presenting Author: Anne Hardy, HoGent, Belgium; **Co-Author:**Liesbet Gevaert, University College Ghent, Belgium; **Co-Author:**Sofie Vandroemme, University College Ghent, Belgium; **Co-Author:**Robin Stevens, University College Ghent, Belgium

The Educational Development unit of HOGENT, a Flemish university of applied sciences, supports its teaching staff in the process of building future-proof curricula that prepare students for a challenging and changing world. The professional development of the teaching staff is crucial for implementing future-proof education. One of the topics HOGENT focuses on is blended learning. Through the mix of online and offline learning we aim that lectures organize their lessons more efficient and effective, activate their students and be able to teach for diversity.
In this research we investigate if professional development has an impact on students and teachers. With regard to students we look, for example at their motivation, GPA and the teaching quality as perceived by students; concerning teachers we particularly focus on the didactical effect of the blended learning program and their assessment of the professionalization program. We assess this question using a mixed-method design. First, we collected quantitative data through a survey with well-established constructs. We will add the survey data with qualitative insights by organizing group discussions with teachers. By researching the effects of our professional development program, we aim to further improve our training programs.

Flipped Classroom model as a tool of change in Higher Education pedagogics
Keywords: 21st century learning, Blended learning, Higher education, Learning styles / approaches
Presenting Author: Antti Ronkainen, University of Eastern Finland, Finland

Flipped Classroom -model as a tool of change in Higher Education pedagogics
What do university students think when their familiar way of teaching is replaced with Flipped Classroom (FC) model? Despite growing interest in FC, relatively little research has looked at the students' perceptions. This paper explores the outcomes of a university-wide programme, where faculty members were supported in flipping their courses. Written responses (n=605) of two open-ended survey questions from students who took FC courses (n=19) in various subjects, have been analyzed to find out about their experiences. Furthermore, quantitative data from a multiple-choice questionnaire will be used to support the analysis. Initial qualitative analysis has been conducted and results show that while most respondents had a positive view about FC, there were also downsides. On positive side, students e.g perceived FC enhancing their learning and were satisfied with efficiency and flexibility. Issues with time-management, overall stress and lack of self-confidence were among the negative impressions. However, many students can see the potential benefits of FC even when they saw problems in the course implementation, which calls out for further pedagogical support for the teachers. Moreover, themes such as factors behind good and bad learning experiences will be covered.

Sessions H 7

28 November 2019 17:30 - 19:00
Sweden (VSpa)
Present & Discuss
Higher education, Workplace learning

Innovations in Teacher Training

Keywords: Continuing professional development in Teachers, Educational Policy, Higher education, In-service Teacher Training, Innovations in education, Leadership development, Mentoring, Professional Development, Professionalisation of educators
Interest group: CLOUD 02 - Educators' professional development, CLOUD 07 - Research impact on school development
Chairperson: Elke Emmers, UCLL, Belgium

A mentoring model to assist educators in conducting their practitioner research.
Keywords: In-service Teacher Training, Mentoring, Professional Development, Professionalisation of educators
Presenting Author: Geoff Hilton, University of Queensland, Australia; **Co-Author:**Annette Hilton, University of Technology Sydney, Australia

There is a growing interest in the effectiveness of practitioner research for promoting educators' professional learning. It is necessary to determine what support educators need to develop research skills to design and implement practitioner research. This presentation reports on a three-year iterative cycle of the development of a professional learning model to enhance educators research skills and support them to conduct their own research. The current iteration entails six face-to-face workshops over a year where educators (mainly teachers and administrators) are mentored to develop their research skills and research projects. At this stage, approximately 70 participants from 15 schools have taken part in the mentoring program over the three years. Participants were surveyed at the beginning of each year and then interviewed mid-year and end of year. Each year's findings indicated the success of the program but also informed means of improvement in ensuing years.

DIME - a promising alternative in educational innovation
Keywords: Educational Policy, Higher education, Innovations in education, Leadership development
Presenting Author: Remco Coppoolse, Utrecht University of applied science, Netherlands

Stagnation in educational innovations is an important cause for absence of change in educational practice. The stagnation is the result of planned change reasoning that does not justify the process of educational innovations. This presentation is a summary of a PhD research, in which planned change reasoning about educational innovation has been exchanged for a more promising dynamic multi-actor perspective. The aim of this study is to design work rules that innovation leaders can use as interventions to realize continuity of educational innovations, from the dynamic multi-actor perspective. A set of 18 work rules has been developed in design-oriented research. In addition the work rules are plotted on an process loop of educational innovation, in which the dynamic interaction between actors who influence educational innovation and developers who make the transition to the educational implementation is discounted. With the linking of the ideal course and the work rules, an orientation basis has emerged: a source from which innovation managers can draw influencing educational innovation. Although application of the orientation basis seem to contributes to continuity in educational innovation, further research is required to understand the underlying mechanisms.

Beyond the individual: The impacts and outcomes of practitioner research
Keywords: Continuing professional development in Teachers, In-service Teacher Training, Professional Development, Professionalisation of educators

Presenting Author: Annette Hilton, University of Technology Sydney, Australia; **Co-Author:**Geoff Hilton, University of Queensland, Australia

This practice-based study, now in its fourth year, focuses on the ongoing refinement of a professional learning program to support school-based educators to conduct their own practitioner research. This paper reports on one aspect of the study using data from the first three years in which over 50 educators designed and conducted their own practitioner research. This paper focuses on the potential of these projects to produce outcomes with influence beyond the individual researcher and in so doing seeks to address the dearth of literature about this aspect of practitioner research. The findings of this multiple case study show that practitioner research has the capacity to influence change within and across schools (classroom-based change, curricular change, student-centred change, logistical and managerial change) and that some outcomes reach beyond the educators' workplace (e.g., school district, national, or even international level). This study has implications for teacher educators with an interest in teacher research, school leaders and policy makers who have the capacity to support educators to conduct research, and for academic researchers who wish to learn more about the ways in which practitioner research contributes to the broader field of education and educational research.

Sessions H 8

28 November 2019 17:30 - 19:00
Krause (Dorpat)
Present & Discuss
Secondary education, Vocational education

Continuing Professional Development in Teachers

Keywords: 21st century learning, Continuing professional development in Teachers, Educational Technology, In-service Teacher Training, Innovations in education, Organisation of educational research, Professional Development, Research cooperation frameworks, Vocational education, Web-Based Learning
Interest group: CLOUD 02 - Educators' professional development, CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning, CLOUD 07 - Research impact on school development
Chairperson: Manuel Peixoto, Portugal

L-Cloud: Developing tomorrow's Cloud Education Leaders
Keywords: 21st century learning, Continuing professional development in Teachers, Educational Technology, Web-Based Learning
Presenting Author: Gregoris Makrides, European Association of ERASMUS coordinators, Cyprus

The L-Cloud is an EU funded project started on 1st of October 2018. The purpose of the project is to educate teachers to teach and manage schools under Cloud Computing. The Cloud Computing industry is experiencing exponential growth and is the foundation for ubiquitous digital administrative and operational systems, including education. The L-Cloud project has reviewed the literature and present guidelines for skills and competences of teachers' ability to adapt to the constantly developing Cloud System and has published a report as the Intellectual Output 1 (IO1). The questions under investigation is the form of a competence framework that needs to be designed, composed by a number of associated competences, each of them described through knowledge, skills , experiences and attitudes. This investigation (IO2) is planned through focus groups discussion with experts and a first draft will be ready before the EAPRIL 2019 conference. In addition, the project plans the development of an International Professional Certification Programme. At EAPRIL roundtable we intend to receive feedback from expert practitioners for enhancing the outputs of this project, more specifically the IO2 and the IO3.

The positioning of master educated teacher-researchers in vocational education
Keywords: Continuing professional development in Teachers, Organisation of educational research, Research cooperation frameworks, Vocational education
Presenting Author: Sara Albone, Aeres Hogeschool Wageningen, Netherlands

More and more teachers in vocational education in the Netherlands complete a master degree following a bachelor degree. Vocational teachers working at Aeres colleges are no exception to this national trend. But how are these master educated teachers positioned within their schools and how do they fulfil their role as teacher-researchers? This research contains the results of interviews with four teacher-researchers at two VET-schools in the Netherlands. The research questions being; *How do master educated teacher-researchers AT Aeres vocational colleges experience their role in practice-based research?* and *How can participation in a professional learning community and access to an individual coach aid the teacher-researcher in their research role?* The master educated teacher-researchers are all experienced teachers with a primary role in teaching in addition to performing research projects. The research topics focus on student development, educational improvements or increasing subject knowledge. The teacher-researchers experience time and planning constraints in completing their research as well as limited opportunities to share their research findings. The participation in a professional learning community helps the teacher-researchers primarily to exchange ideas. Coaching sessions allow the teacher-researcher to gain more insight into their position within the organisation as well as encouraging research activity.

The development of a pedagogical route based on the historical-critical pedagogy steps
Keywords: Continuing professional development in Teachers, In-service Teacher Training, Innovations in education, Professional Development
Presenting Author: Azenaide Abreu Soares Vieira, Federal Institute of Mato Grosso do Sul - IFMS, Brazil; **Co-Author:**Larêssa Cintra de Almeida, Federal Institute of Mato Grosso do Sul, Brazil; **Co-Author:**Nayara Caroline Soares Vieira, State University of Mato Grosso do Sul, Brazil

The research aim to analyzes the pedagogical course MAES (COSTA; VIEIRA, 2018) and RE-MAES (VIEIRA; CHEDIAK, 2018) developed according to active learning paradigm and to establish a dialogue between Active Methodologies with Historical-Critical Pedagogy in order to support new practices in different learning contexts. It is guided by the questions: how to organize a pedagogical work from the perspective of active learning? Is it possible to establish a dialogue with active learning paradigm and Historical-Critical Pedagogy? It is a qualitative research of applied and exploratory nature. The data collection instruments used were: bibliographic review and documents produced in teachers practices. The research emerged in the analysis and reflection of the pedagogical practices fomented by MAES Network under the focus of problematization and emancipation. It was possible to conclude the importance of the methodological alternatives for teaching practice, analyzing them as object of continuous re-signification for the reach of the effectively critical formation.

Sessions H 9

28 November 2019 17:30 - 19:00
Struve I (Dorpat)
Workshop
Higher education

Stories as a Tool for Professional Learning of Teacher Educators from schools and universities

Keywords: Initial Teacher Education (Pre-service), Professional Development, Professionalisation of educators, Workplace learning
Interest group: CLOUD 02 - Educators' professional development

Teacher educators from schools and universities are working in complex partnerships for initial teacher education in which school-based teacher education and work place learning are essential parts of the learning environment. This workshop uses resources developed from stories about 'dilemmas in practice', told by teacher educators working in partnerships between schools and universities in England and the Netherlands. The resources act as a provocation to explore the challenges to professional practice that are being experienced in this evolving landscape. Ways will be considered of using the stories to discuss dilemmas in practice, and how they can be used as a tool for professional development. Exploring challenges using teacher educators' stories could provide a powerful way of collaboratively addressing dilemmas faced by school- and university-based teacher educators in practice. The workshop starts with a brief introduction to the context. Then the audience will be divided into groups who will each have a story to read and explore further. Each resource includes a reflective activity to

develop critical thinking about the dilemma in practice. The perspectives of participants on the stories will be shared, followed by a consideration about new and innovative ways to use the stories available at www.go.herts.ac.uk/FLiTE.

Stories as a Tool for Professional Learning of Teacher Educators from schools and universities
Presenting Author: Miranda Timmermans, Avans university of applied sciences, Netherlands; **Co-Author:**Elizabeth White, University of Hertfordshire, United Kingdom

Teacher educators from schools and universities are working in complex partnerships for initial teacher education in which school-based teacher education and work place learning are essential parts of the learning environment. This workshop uses resources developed from stories about 'dilemmas in practice', told by teacher educators working in partnerships between schools and universities in England and the Netherlands. The resources act as a provocation to explore the challenges to professional practice that are being experienced in this evolving landscape. Ways will be considered of using the stories to discuss dilemmas in practice, and how they can be used as a tool for professional development. Exploring challenges using teacher educators' stories could provide a powerful way of collaboratively addressing dilemmas faced by school- and university-based teacher educators in practice. The workshop starts with a brief introduction to the context. Then the audience will be divided into groups who will each have a story to read and explore further. Each resource includes a reflective activity to develop critical thinking about the dilemma in practice. The perspectives of participants on the stories will be shared, followed by a consideration about new and innovative ways to use the stories available at www.go.herts.ac.uk/FLiTE.

Sessions H 10

28 November 2019 17:30 - 19:00
Lithuania (VSpa)
Workshop
Higher education

Is there a blind spot in your online information skills?

Keywords: 21st century learning, Meta-cognition and metacognive learning, Professionalisation of educators, Research-based learning
Interest group: CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning

This practice-based educational research investigates how online information research skills can be better supported and facilitated within course units and embedded throughout the curriculum. We emphasize the online aspect as the primary research activities of our target audience, digital natives (Prensky, 2001), start online. Teachers observe an extremely heterogeneous population in their classes, and acknowledge that they have to rethink their way of support on the subject of doing research. We use a bottom up approach to improve the digital skills of students as well as lecturers, as both these groups tend to overestimate their digital research skills (Wan,2011; Pynoo & Kerckaert,2013). Teachers are often insufficiently trained to instruct online skills to students (Fong & Lam, 2010;

Pynoo & Kerckaert,2013). While 21st century skills are valued highly and online research is clearly part of this skill set, teachers experience difficulty with incorporating digital proficiency in classes. Moreover, the skills are rarely embedded in the curriculum (Thijs, Fisser & Hoeven,2014). We have constructed a framework, inspire – learn & test – reflect, in which we integrate tools and good practices. In addition to presenting a theoretical framework, we aim to expand current insights about online search strategies and common practices in information literacy.

Is there a blind spot in your online information skills?
Presenting Author: Kimberly Verhaest, Howest - dept eduaction, Belgium; **Co-Author:**Wouter De Meester, Howest University College, Belgium

This practice-based educational research investigates how online information research skills can be better supported and facilitated within course units and embedded throughout the curriculum. We emphasize the online aspect as the primary research activities of our target audience, digital natives (Prensky, 2001), start online. Teachers observe an extremely heterogeneous population in their classes, and acknowledge that they have to rethink their way of support on the subject of doing research. We use a bottom up approach to improve the digital skills of students as well as lecturers, as both these groups tend to overestimate their digital research skills (Wan,2011; Pynoo & Kerckaert,2013). Teachers are often insufficiently trained to instruct online skills to students (Fong & Lam, 2010;

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Sessions H 11

28 November 2019 17:30 - 19:00
Struve II (Dorpat)
Workshop
Higher education

It is all about connecting. Student teacher learning at the workplace.

Keywords: Initial Teacher Education (Pre-service), Knowledge Building and Development, Practice-based research (methodology), Workplace learning
Interest group: CLOUD 01 - Teacher education

The aim of the workshop is to give insight and deepen the understanding of student teachers' learning at the workplace. In the workshop a model is presented (based on Tynjälä, 2008, p. 144) in which three elements are connected: practice (i.e the experiences of student teachers), theory (i.e the knowledge base about teaching and learning) and person (i.e. self-regulation and the personal characteristics of the student teacher as a teacher). The connective approach is an important concept for learning at the workplace (see Onstenk, 2016) This model serves as a frame work for four research projects which will be shared during the workshop. The focus of the research is, for example, how student teachers can learn when connecting different subjects (i.e science and art), how student teachers can deepen their own professional development by connecting pupil feedback to the focus for their professional development (link theory and person), or how student teachers' professional identity can be developed by connecting person, theory and practice. Results show that teacher educators at the

workplace can play an important role to help student teachers make these connections and the results make clear what teacher educators can do.

It is all about connecting. Student teacher learning at the workplace.
Presenting Author: Bob Koster, Fontys University of Applied Sciences, Netherlands

The aim of the workshop is to give insight and deepen the understanding of student teachers' learning at the workplace. In the workshop a model is presented (based on Tynjälä, 2008, p. 144) in which three elements are connected: practice (i.e the experiences of student teachers), theory (i.e the knowledge base about teaching and learning) and person (i.e. self-regulation and the personal characteristics of the student teacher as a teacher). The connective approach is an important concept for learning at the workplace (see Onstenk, 2016) This model serves as a frame work for four research projects which will be shared during the workshop. The focus of the research is, for example, how student teachers can learn when connecting different subjects (i.e science and art), how student teachers can deepen their own professional development by connecting pupil feedback to the focus for their professional development (link theory and person), or how student teachers' professional identity can be developed by connecting person, theory and practice. Results show that teacher educators at the

workplace can play an important role to help student teachers make these connections and the results make clear what teacher educators can do.

Sessions H 12

28 November 2019 17:30 - 19:00
Estonia + Latvia (VSpa)
Case study
Secondary education, Workplace learning

Educators' Professional Development A

Keywords: Practice-based research (methodology), Professional Development, Secondary school education, STEM, Teacher thinking, Vocational education, Workplace learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 14 - Learning in Organisations
Chairperson: Elina Maslo, Denmark

Learning histories in teamlearning and action research
Keywords: Practice-based research (methodology), Professional Development, Vocational education, Workplace learning
Presenting Author: Joan van den Ende, Aeres Hogeschool Wageningen, Netherlands; **Co-Author:**Tom van Oeffelt, Aeres University Wageningen, Netherlands

'Good work' is increasingly the work of teams, also in vocational education. What is needed are teams who learn quickly, in a short cycle and close to the task. We call this 'process task-oriented team learning'. Aim of action research is gaining knowledge about this learning and working on what we call professional frames. Important starting point is that our research needs to contribute to the learning of the teams. One of the methods we use is the method of 'Learning Histories' (Kleiner & Roth, 1996) A learning history aims to provide a detailed report of the activities in an innovative project, or a learning project, in such a way that the team and other teams can learn from it. In this case study we want to share our procedures and process, our successes and our dilemma's.

To obtain a network of compagnies for High Schools to enrich science education
Keywords: Professional Development, Secondary school education, STEM, Teacher thinking
Presenting Author: Mandy Stoop, Fontys University of Applied Science, Netherlands

This summery is an extract of seven years of intensive experience with connecting companies to High Schools, for the purpose to enrich High School education with realistic experiences for pupils to orientate on the future career possibilities in technical jobs. This experience had started by a pupils question during a physics lesson: "Why should I learn this?". The author realised she couldn't provide the wright answer because a lack of knowledge about the technical work field. She found a new job on with she was tasked to connect the local compagnies to the High School she worked for. After four years she was asked by a national organisation to do the same for a complete region of High School and companies. She did this for three years. The summery she wrote about this experience is been reviewed by two colleagues who did the same job for different regions, by three teachers who have intensive experiences with collaboration with compagnies and with three compagnies who work intensively with schools.

Keynote speech by Prof. dr. David Gijbels 1

29 November 2019 09:15 - 10:45
Struve (Dorpat)
EAPRIL Keynote

Grasping learning: a mission not fully completed yet

Keywords: Higher education, Learning styles / approaches, Lifelong Learning, Self-regulation and self-regulated learning
Interest group:
Chairperson: Tom De Schryver, Netherlands

Successful learning and studying in higher education today is expected to involve students in deep approaches to learning towards more meaningful and critical learning instead of just repeating knowledge. The rationale behind this expectation seems to be largely based on the idea that higher education is increasingly required to deliver work-ready graduates that are prepared to a life as lifelong learner and that, given the scholarly nature of higher education, part of that should be the development of deep approaches to learning. In order to foster such deep approaches to learning, research and development programs have been initiated in the past decades that have resulted in feedback-tools to assist both students and employees to gain insight in their own (approaches to) learning. In my keynote, I will on the one hand present such feedback-tools and the research behind these tools and try some of these tools with the audience. On the other hand I will also discuss potential problems and pitfalls with such tools that are largely based on self-report data and present ongoing research from our team in Antwerp in which we make use of eye-tracking technology in order to try to take these problems into account.

Grasping learning: a mission not fully completed yet
Presenting Author: David Gijbels, University of Antwerp, Belgium

Successful learning and studying in higher education today is expected to involve students in deep approaches to learning towards more meaningful and critical learning instead of just repeating knowledge. The rationale behind this expectation seems to be largely based on the idea that higher education is increasingly required to deliver work-ready graduates that are prepared to a life as lifelong learner and that, given the scholarly nature of higher education, part of that should be the development of deep approaches to learning. In order to foster such deep approaches to learning, research and development programs have been initiated in the past decades that have resulted in feedback-tools to assist both students and employees to gain insight in their own (approaches to) learning. In my keynote, I will on the one hand present such feedback-tools and the research behind these tools and try some of these tools with the audience. On the other hand I will also discuss potential problems and pitfalls with such tools that are largely based on self-report data and present ongoing research from our team in Antwerp in which we make use of eye-tracking technology in order to try to take these problems into account.

Sessions I 1

29 November 2019 11:15 - 12:45
Krause (Dorpat)
Thematic Carousel
Higher education, Workplace learning

Meaningful learning in organisations: practice-based research on onboarding-talent management and offboarding practices - session 2/2

Keywords: 21st century learning, Cooperative learning, Corporate learning, Curricula, Higher education, Labour market & formal learning, Lifelong Learning, Teaching approaches, Vocational education, Web-Based Learning, Workplace learning
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 05 - HRD & Workplace learning, CLOUD 14 - Learning in Organisations
Chairperson: Tom De Schryver, Netherlands

Online degree education through cross studies (2)
Keywords: Higher education, Labour market & formal learning, Lifelong Learning, Web-Based Learning
Presenting Author: Kati Mäenpää, Oulu University of Applied Sciences, Finland; **Co-Author:**Marjo Joshi, Turku University of Applied Sciences, Finland

Finnish Ministry of Education and Culture has funded eAMK,, a project to develop year-round digital studies that can support flexible curricula and offer students

a possibility to expand their knowledge and competences through cross-studies from all participating Universities of Applied Sciences (UAS). (https://www.eamk.fi/en/frontpage/). The project involves all UAS in Finland, thus developing online education for staff and students in those higher education institutions (HEIs).
One of the working groups in the project is focusing on developing online degree studies in higher education. Online degree education refers to studies that are completed fully in digital environments and that lead to a higher education degree. Online degree education is equivalent to on-site degree education and results in the same degree certificate as traditional degrees. Currently online degree education is offered in e.g. business, ICT, social studies, media production and blended learning education in nursing. In addition to skills and competences students gain in their own study field, they also gain digital work competences by studying fully online. Most online degree students are working professionals who need complementary competences in their current work or new skills and knowledge in order to advance in their profession. Communication and collaboration skills in digital global work environments is seen critical skills for many of today's workplaces. Our students rate the digital work skills gained in online studies very high, as most of them see this as an added value that may not be achievable in traditional on-site degree education and adds to their profile in the job market. Also self-regulative learning skills are seen essential in professional learning and professional competence. The preliminary research shows that studying in online learning environment sustains students' self-regulative learning skills in terms of motivation regulation. In addition, students' study engagement, well-being and academic performance are related to better motivation regulation, but do not differ between students' studying either in traditional or online degree programmes.
Online degree education provides a modern way of educating professionals with excellent skills in digital work, virtual collaboration and self-management, all of which are needed in working in today's demanding tasks in for-profit companies. It is therefore important to focus on the development of solutions and implementations of online degree education to provide an opportunity for working professionals as well as those entering labour market the best possible study opportunities to gain new skills and knowledge. For the HEIs, developing online degree education means implementing new approaches to learning and teaching, learning environments, guidance, assessment, and teacher training, to name a few. Also, new structures and policies may be implemented at the level of the organisation.

Bringing higher education of social and health care to the digital era (2)
Keywords: Cooperative learning, Lifelong Learning, Web-Based Learning, Workplace learning
Presenting Author:Päivi Pöyry-Lassila, Laurea University of Applied Sciences, Finland; **Co-Author:**Sanna Juvonen, Laurea University of Applied Sciences, Finland; **Co-Author:**Outi Ahonen, Laurea UAS, Finland; **Co-Author:**Piia Kuosa, Laurea University of Applied Sciences, Finland; **Co-Author:**Merja Drake, HAAGA-HELIA University of Applied Sciences, Finland; **Co-Author:**Elina Rajalahti, Laurea UAS, Finland; **Co-Author:**Panu Huczkowski, Lapland University of Applied Sciences, Finland; **Co-Author:**Marko Vatanen, Lapland University of Applied Sciences Finland, Finland; **Co-Author:**Taina Romppanen, KAMK University of Applied Sciences, Finland; **Co-Author:**Tuija Buure, Metropolia University of Applied Sciences, Finland; **Co-Author:**Leena Hinkkanen, Metropolia University of Applied Sciences, Finland; **Co-Author:**Minna Tiainen, Tampere University of Applied Sciences, Finland

Learning in multidisciplinary collaboration: Bringing higher education of social and health care to the digital era
The mission of the SotePeda 24/7- project is to develop the expertise of educators, students, and working life representatives in developing human centric digital services in health and social care sector, and in digital pedagogy. During the project, we will create new pedagogical solutions and digital courses that will enable fluent, year-round digital learning paths for university students and working life in the field of health and social care. The solutions being developed include, e.g., MOOCs, virtual gamified learning environments, and digital living labs for learning.The SotePeda 24/7 project applies participatory service design methods when developing the learning environments and pedagogical solutions. The target of the development is to support trialogical learning in the context of digital health and social care services in multidisciplinary teams, taking the lifelong learning perspective into account. Furthermore, the learning environments and contents are not developed only for university students but also for the multidisciplinary social and healthcare professionals already in working life updating their knowledge, and for the organizations in this sector including public, private and third sector perspectives needing new knowledge. The project has adopted as its principal pedagogical model, directing the development of the learning environments and solutions, the *trialogical learning model* (e.g. Hakkarainen & Paavola, 2009). According to Sfard (1998; see also Paavola & Hakkarainen 2005) there are two basic theories or metaphors of learning, namely the acquisition metaphor ('monological learning') and the participation metaphor ('dialogical learning'). In addition to these two, Paavola and Hakkarainen (2005) have introduced the third metaphor, the knowledge-creation metaphor ('trialogical learning') according to which learning is targeted to expand the existing knowledge and competencies through a process of an "innovative inquiry". Based on Hakkarainen and Paavola (2009) we define the trialogical learning as a process of co-creating new knowledge and solutions through multidisciplinary collaboration. The trialogical learning process is mediated by nature, which means that it takes place through the shared objects, using them as mediators. Trialogical learning can be seen as a form of expansive learning (e.g. Engeström, 2009). In this kind of a learning process, knowledge is collaboratively created with the help of shared objects, conceptual or concrete, as well as practices that are collaboratively and systematically developed through the collective action. The individual members of the learning community participate actively in the shared knowledge creation process. (Paavola & Hakkarainen, 2005; Hakkarainen & Paavola, 2009) The objective of our presentation is firstly, to elaborate on the trialogical learning model, and secondly, to find out ways to disseminate this model into different kinds of digital work communities acting as innovative knowledge communities. We also aim to discuss why and how the trialogical learning model fits well to the context of digitalizing social and health care education at the university level. In addition, our presentation focuses on how all three metaphors of learning could be taken into account in the digital learning environments and communities
References: Engeström, Y. (2009). Expansive learning: toward an activity-theoretical reconceptualization. In: K. Illeris (ed.) Contemporary Theories of Learning. London: Routledge, pp. 53-73. Hakkarainen, K. & Paavola, S. (2009) Toward Trialogical Approach to Learning. In: B. Schwarz et al. (eds.) Transformation of Knowledge through Classroom Interaction. Abingdon: Routledge, pp. 35-80. Paavola, S. & Hakkarainen, K. (2005) The Knowledge-Creation Metaphor – An Emergent Epistemological Approach to Learning. Science & Education, Vol. 14 (2005), pp. 535-557. Sfard, A. (1998) On Two Metaphors for Learning and the Dangers of Choosing just One, Educational Researcher Vol. 27, No. 2, pp. 4–13.

Closing the skills gap: public-private initiatives towards a skills-based labour market (2)
Keywords: Corporate learning, Lifelong Learning, Vocational education, Workplace learning
Presenting Author: Marieke Veltman, Windesheim University of Applied Sciences, Netherlands; **Co-Author:**Anneke Goudswaard, Windesheim Flevoland University of Applied Science; TNO, Netherlands; **Co-Author:**Nihat Dag, Windesheim Flevoland University of Applied Science, Netherlands

Labour supply shortages at the Dutch labour market have become pressing in recent years. At the regional labour market this predominantly concerns SMEs, forcing them to find new ways to recruit and train potential talent. Since traditional professional/vocational education cannot fill in the gap, they must search in other groups, sectors or amongst the unemployed. In response, public-private partnerships have attempted to relieve these shortages by designing approaches to support employers to identify potential talent across sectors, and beyond the scope of specific professional/vocational education programmes. A skills approach, with skills as "the core currency of the labour market" (World Economic Forum, 2019) might solve the mismatches, and help to offset the increasing dynamism in the required skills and bridge the gap.

We will present two initiatives to which we have contributed, in which employers, municipalities, educational institutes and intermediary organisations joined forces to match potential workers to jobs and to develop tailormade training programmes adopting a skills approach: House of Skills and New Jobs Lelystad. We will share the lessons learned from these cases and present design principles for the design of future initiatives in similar contexts.

Engineering Education and Industry: University initiatives to eliminate knowledge gap (2)
Keywords: 21st century learning, Curricula, Higher education, Teaching approaches
Presenting Author: Liudmila Bolsunovskaya, National Research Tomsk Polytechnic University, Russian Federation

Nowadays interest in new skills of a future engineer is on the radar of researchers. To meet society's challenges the successful future engineer will need business and management knowledge, leadership, high ethical standards, professionalism, dynamism, agility, resilience, strong analytical skills, practical

ingenuity, creativity, good communication skills, flexibility, and the pursuit of lifelong learning. To prepare the engineer for that challenging future, the National Research Tomsk Polytechnic University undertook an in-depth study of how engineering education would have to change and to lower the knowledge gap of students close to the labor market, providing a tremendous diversity of engineering skills. The research revealed some of the obstacles the engineering university had to overcome. The paper suggests the outline of training and development initiatives within the Tomsk Polytechnic educational strategy. As a result of the research, an engineering competency model was suggested. Developing an engineering competency model was identified as a key priority by the authorities of Tomsk Polytechnic University to help educators, employers, professionals and future engineers understand the knowledge and skills needed to thrive in the workplace. The result of the research professes a new role for the engineers of tomorrow, reflecting a new level of leadership and professionalism.

Sessions I 2

29 November 2019 11:15 - 12:45
Baer (Dorpat)
Present & Discuss
Higher education

Diversity and Equality in Education

Keywords: Continuing professional development in Teachers, Diversity, Educational Attainment & Achievement, Higher education, In-service Teacher Training, Inclusivity, Motivation, Professional Development, Team Learning
Interest group: CLOUD 01 - Teacher education, CLOUD 08 - Diversity & equality in different contexts
Chairperson: Kimberly Verhaest, Belgium

Addressing attainment gaps through teaching interventions – an active learning approach
Keywords: Educational Attainment & Achievement, Higher education, Inclusivity, Team Learning
Presenting Author: Uwe Matthias Richter, Anglia Ruskin University, United Kingdom

We at Anglia Ruskin University, UK extended Active Collaborative Learning (ACL) across the whole institution, in order to address attainment disparities experienced by students from certain social and ethnic backgrounds. We investigated whether ACL would remain effective beyond initial interventions, and whether it improved outcomes for disadvantaged students. We evaluated ACL using mixed methods research, and carried out Action Research to identify and resolve barriers to scaling up. All students benefitted from TBL, with substantial improvements in attendance and engagement, and small improvements in outcomes. This shows that ACL remains effective when scaled up across an institution. We also demonstrated the use of student data to understand the impact of an educational intervention to support equality and success for all students.

Professional development for teachers to address diversity among pupils
Keywords: Continuing professional development in Teachers, Diversity, Higher education, Professional Development
Presenting Author: Helma de Keijzer, Fontys Hogescholen, Netherlands; **Co-Author:**Linda van den Bergh, Fontys Opleidingscentrum Speciale Onderwijszorg, Netherlands

Professional development (PD) is an important means to support teachers in addressing diversity (e.g. Van Casteren et al, 2017). However, little is known about how teachers' PD at their workplace can be best constructed and what teachers' needs really are. The purpose of this study is to provide insights in how teachers' PD with respect to addressing the needs of diverse pupils, can be facilitated. The participants in this research are primary school teachers of three school boards in the Netherlands (two mainstream education, one special education). Answers of the first research-question: 'what kind of professional development activities do teachers perceive as effective for their development to address diversity in the classroom?', were obtained by a questionnaire for teachers. Findings show that teachers' perceptions corresponds with the literature of effective PD to a large extent. Additionally, teachers specified and supplemented this knowledge about what they themselves perceive as valuable. These findings will guide the topics for the focus group interviews and for the general design of the PD activities to answer the second research question: 'what choices do teachers make in professional development to further develop addressing diversity for their own context'. These findings will be presented during the conference.

Learning to prevent and reduce challenging behaviour: making use of good practices
Keywords: Continuing professional development in Teachers, Diversity, In-service Teacher Training, Motivation
Presenting Author: Linda van den Bergh, Fontys Opleidingscentrum Speciale Onderwijszorg, Netherlands; **Co-Author:**Anje Ros, Fontys University of Applied Sciences, Netherlands; **Co-Author:**Marianne den Otter, Fontys University of Applied Sciences, Netherlands

The majority of teachers indicates that it is not easy to teach students with challenging behaviour in the classroom. Preventing and reducing this behaviour depends to a large extent on the professional behaviour of the teacher. Although quite a lot has been described about how to effectively deal with problematic behaviour in the literature, (prospective) teachers find it difficult to put this knowledge into practice. It remains a challenge for teachers to create and maintain a positive pedagogical climate in their classroom. More insight into good practices is therefore of great importance, as well as insight into the transferability of the success factors to other (prospective) teachers in training and continuing professionalization.
In this practice based research, good practices were analysed and put in picture based on the self-determination theory. We developed a digital learning environment based on video observations, interviews, interviews, STARR reflections and mind webs of students. This learning environment has been used in schools and in teacher training institutes. The learning environment and the ways in which it was used will be presented. Furthermore, the elements in the learning environment that were found effective and valued by the teachers will be discussed.

Sessions I 3

29 November 2019 11:15 - 12:45
Lithuania (VSpa)
Present & Discuss
Early childhood education, Primary education

Early Childhood Education B

Keywords: Bilingual education, Early childhood education, Educational Technology, Knowledge Building and Development, Language Education, Leadership styles, Pre-school education / kindergarten, Primary school education, Research-based learning, Well-being and engagement
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments, CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning
Chairperson: Karin Diemel, Fontys University of Applied Sciences, Netherlands

Incidental Video-Based Foreign Language Learning in Young Children: A Pilot Study in Home Settings
Keywords: Bilingual education, Early childhood education, Educational Technology, Language Education
Presenting Author: Robert Reuter, University of Luxembourg, Luxembourg; **Co-Author:**Charline Nosbusch, University of Luxembourg, Luxembourg

In the present pilot study, we explore in how far a self-developed video-based app could lead to incidental foreign language learning in young children with a migration background. Four children (3-7 years old; 2 boys, 2 girls) participated in the study together with their parents. Pre- and post-intervention language skills tests were used to quantify their language proficiencies; interviews with the children and their parents were used to get a grasp of how engaging the learning app was for the children and in how far the children transferred what they heard in the videos to everyday life situations. Results suggest that the use of the app did lead to increases in language skills and that it was engaging and extended beyond the concrete exposure phase. Incidental foreign language

learning using mobile video apps should be further explored as a promising tool to prepare minority children for formal language learning.

Children's involvement in fee play in ECEC institutions' outdoor environments.
Keywords: Knowledge Building and Development, Pre-school education / kindergarten, Research-based learning, Well-being and engagement
Presenting Author: Rune Storli, Queen Maud University College, Norway

In this study, we focus on children's involvement in play as a means of investigating their opportunities for deep level learning in the ECEC outdoor environment.Environments that provide children with meaningful contexts for learning and a diversity of possibilities for following their interest are where children learn best (Hirsh-Pasek, Golinkoff, & Eyer, 2003), and Laevers (2000) describes how learning takes place when children are in a mode of high involvement. Thus, environments that support children's involvement in play have the potential to promote learning.The project is within a pragmatic paradigm and involves 8 ECEC settings in a *Design experiment in education*(Hartas, 2010). The presentation consist of quantitative analyses of how children's involvement in play relates to environment features.The data analyzes show that free play with loose materials and play in sand-box are significant correlated to high level of children's involvement in free play. Knowledge of how high involvement in play connect to environmental features in ECEC institutions' outdoor environments will be particularly relevant for stakeholders in the ECEC sector and professionals involved in the ECEC sector.

Leading interprofessional collaboration between primary education and child care services
Keywords: Early childhood education, Leadership styles, Pre-school education / kindergarten, Primary school education
Presenting Author: Rachel Verheijen-Tiemstra, Fontys University of Applied Sciences, Netherlands; **Co-Author:**Anje Ros, Fontys University of Applied Sciences, Netherlands; **Co-Author:**Marc Vermeulen, Tilburg University, TIAS School for business and society, Netherlands

In the Netherlands there is a growing belief that interprofessional collaboration is needed between the fields of primary education (4-12) and child care services (day care, pre-schooling and after-school facilities) in order to realize alignment in pedagogical and learning pathways. Nowadays almost all primary schools in the Netherlands show at least some level of cooperation with one or more pre-school, day care or after-school facilities (Kieft, Van der Grinten & De Geus, 2016) in (integrative) child centres (ICC's). Despite the large number of schools and child care services working together, there is a lack of knowledge on the specific characteristics of interprofessional collaboration (IPC) between both sectors. Aim of this study is to achieve thorough insight in the construct of IPC in this context. A multiple qualitative case study among 16 ICC's including depth interviews and focus groups was undertaken. We found that IPC is a multidimensional phenomenon consisting of five dimension (child focused, professional, functional, organizational and cultural dimensions) and schools and child care services that work together in (integrative) child centres (ICC ') show different levels of IPC at each dimension. Also we found that almost all ICC's expect difficulties within the cultural dimension of IPC.

Sessions I 4

29 November 2019 11:15 - 12:45
Pirogov (Dorpat)
Case study
Higher education, Vocational education

Collaborative Learning in Teacher Teams

Keywords: Educational Effectiveness and quality of education, Higher education, Initial Teacher Education (Pre-service), Organisational learning, Professionalisation of educators, Research cooperation frameworks, Research-based learning, Team Learning
Interest group: CLOUD 01 - Teacher education, CLOUD 14 - Learning in Organisations
Chairperson: Sara Albone, Aeres Hogeschool Wageningen, Netherlands

University Teachers' Collaboration: a Possible Model
Keywords: Educational Effectiveness and quality of education, Higher education, Initial Teacher Education (Pre-service), Research cooperation frameworks
Presenting Author: Julianna MRAZIK, University of Pecs, Hungary

The role of teachers in higher education requires innovative partnership learning: being active at the societal level with workplaces and other partners. (Töytäri et al., 2016) and continuous professional development is a vital issue for academics, particularly for higher education teachers (Hossain, 2010). The INEE (2018) recommended aspects to improve teacher professional development are: focusing on teachers in low-income contexts as professionals, learners and individuals; develop, apply, measure and institutionalize standards for teacher professional development; creating professional development opportunities that promote teacher collaboration; providing teachers with ongoing support; building instructional leadership at all levels of the educational system; using ICT, professional learning communities and investment in high-quality teacher educators. In our former research (Mrazik, 2017) we argued that the teacher collaboration is crucial in teacher training. The research behind this case-study describes a qualitative research based on observation of collaboration of teachers in pre-service teacher education and is about those meta-reflections which followed the semester-long course, with 4 teacher educators and 24 student-participants. The outcome of a research is a successful model for cooperation between teacher trainers as well as methodological recommendations for renewal of higher education teacher educators' skills and competences.

Organisational support for innovative (design)teams?!
Keywords: Organisational learning, Professionalisation of educators, Research-based learning, Team Learning
Presenting Author: Haske van Vlokhoven, HAN University of Applied Sciences, Netherlands; **Presenting Author:**Ellen Leenaarts - Gunnewijk, Hogeschool van Arnhem en Nijmegen (HAN), Netherlands; **Presenting Author:**Aimée Hoeve, HAN University of Applied Sciences, Netherlands; **Co-Author:**Ineke Moonen, ROC Nijmegen, Netherlands

Six regional professional and vocational educational institutes (in Dutch: ROC) and an institute for higher professional education (HVE) in the Netherlands have joined forces to professionalize (future) teachers in professional and vocational didactics. By means of design thinking, small interventions in current curricula are invented and monitored by design teams at the local ROC's. The design teams consist of stakeholders from both the labor market or professional domain as well of teachers, instructors, and/or innovation managers from the ROC's. In adjacent research we investigated the processes, products and impact of these design teams. In this case study session we will focus on one of the outcomes: the importance of support of school management for effective impact of design teams. The significance of this support is not new. However, in what ways management could contribute to the success of design teams (or other kinds of innovative teams) is not easily answered. The audience will be challenged to participate in the formulation of some helpful strategies for managerial support.

Sessions I 5

29 November 2019 11:15 - 12:45
Peterson (Dorpat)
Case study
Higher education

Educational Technology

Keywords: 21st century learning, Educational Technology, Higher education, Professional Development, Professionalisation of educators, Web-Based Learning
Interest group: CLOUD 02 - Educators' professional development, CLOUD 06 - Learning in Digital Era: Technology Enhanced Learning
Chairperson: Jan Heystek, North-West University, South Africa

Enhancing Competences of Sustainable Waste Management in Russian and Kazakh HEIs With Online Modules
Keywords: Educational Technology, Higher education, Professional Development, Web-Based Learning

Presenting Author: Sisko Mällinen, Tampereen ammattikorkeakoulu/Tampere University of Applied Sciences, Finland; **Presenting Author:**Ella Kallio, Tampere University of Applied Sciences, Finland; **Co-Author:**Olga Sergienko, ITMO University, Russian Federation

This ERASMUS+ Capacity Building Project, *Sustainable Waste Management in Russian and Kazakh HEIs,*enhances Russian and Kazakh academic staff's capacity in online education of sustainable waste management. Waste management in Kazakhastan and Russia is a serious problem and there is an acute need for online master's level programs in this field. The project is co-ordinated by Tampere University of Applied Sciences, Finland. The other European partners are UCL University College in Denmark and University of Valladolid in Spain. Altogether six universities from Russia and Kazakhstan participate in the project.
A survey probing preconceptions of online learning, completed by 12 participants, found little experience of online facilitation, primarily traditional views on teaching but high motivation to learn new pedagogies. Several workshops and online meetings were organized to support the academic staff in their course design. The expected results are eight online modules in sustainable waste management with contemporary student-centered pedagogy. The results of the pilot course in the autumn will be presented at the EAPRIL conference. Finally, the academic staff's improved competences will enable modernization, accessibility and internationalization of higher education in Russian and Kazakhstan.

Teachers' Professionalization in Digital Didactics
Keywords: 21st century learning, Educational Technology, Professional Development, Professionalisation of educators
Presenting Author: Sterre Wolthuis Scheeres, Amsterdam University of Applied Sciences (AUAS), Netherlands

The introduction of digital technologies in education is changing the way we teach and learn. The competencies that are currently being asked of the teacher mainly concern a different attitude towards technology: teachers must be more aware of the influence of ICT innovations in education, have a flexible attitude towards innovations, show initiative, develop leadership, have problem-solving abilities, critical self-reflection, follow-up training, and can develop themselves independently and in collaboration with colleagues and knowledge institutions[1]. Because of the demand of new ICT competencies, a free-choice module has been developed for the students (teachers applying for a higher teacher qualification in secondary education) of the Master's degree program of the AUAS: *Digital Didactics*. The main objective of the module is to further train secondary school teachers in designing education using digital technologies, mainly paid attention to Open and Online Education (O&O), ICT didactical reasoning (ICT-DR) and Professionalization and Development (P&D). In this presentation I'm going to tell about the P&D sub-module. This sub-module the student starts working on his own reflective attitude towards learning to teach with ICT in his course. This reinforces the teacher's role as an investigating professional and focuses on reflecting on one's own performance in professional practice.

Sessions I 6

29 November 2019 11:15 - 12:45
Finland (VSpa)
Case study
Higher education

Meeting Society's Needs via Higher Education

Keywords: 21st century learning, Assessment and evaluation, Collaborative Learning, Continuing professional development in Teachers, Educational Policy, Higher education, Knowledge Building and Development
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments
Chairperson: Azenaide Abreu Soares Vieira, Brazil

Design Based Education at Work
Keywords: 21st century learning, Assessment and evaluation, Continuing professional development in Teachers, Higher education
Presenting Author: Jacqueline Rietveld, NHL Stenden University of applied sciences, Netherlands; **Presenting Author:**Jan Waalkens, Stenden hogeschool, Netherlands

NHL Stenden University of Applied Sciences is the result of a merger of the former NHL University and Stenden University. Design Based Education (DBE) was introduced through several pilot projects at both universities and eventually adopted as the new educational concept of NHL Stenden University. The Human Resource Management (HRM) bachelor program is one of these pilot courses. DBE is about vivid education as it involves external organisations to participate and fully suits the needs of our networked society of coproducing organisations. The approach demands a lot from student behaviour and participation. The new philosophy should bring innovation, positive change and improved student performance – but does it deliver? Together with students (self-reports), clients (evaluations) and lecturers (observations) action research is applied to study the effect of customized learning strategies in order to improve student performance – in this case performance as junior HRM consultants - in our DBE practices.

Networked regional foresight and the higher education
Keywords: Collaborative Learning, Educational Policy, Higher education, Knowledge Building and Development
Presenting Author: Mauri Kantola, Turku University of Applied Sciences, Finland; **Co-Author:**Minna Scheinin, Turku University of Applied Sciences, Finland

We will introduce a networked model for the higher education institution to support the foresight of the regional education needs and the regional development. The foresight can be defined as a collaborative vision construction process. We depict this as a three-phase (sensing, sense making, seizing) activity formed by combining thinking, debating and shaping the future. Our empirical case is the Southwest Finland Foresight Academy: We have constructed a collaboration network across the boundaries between institutions and industries to combine the resources for foreseeing the regional competence and educational needs. Universities are suitable facilitators of the regional foresight processes and the tree-phase foresight approach is useful. The construction of the foresight network succeeded. The workshops of the different types of stakeholders in each foresight phase supported the expert network. The continuous activation of the network is needed to ensure sustainable foresight process. A network needs an active facilitator. Additionally, we recommend for the universities to establish a specific future learning design – activity, or unit, to operate as a part of the common higher education services to support to facilitation of the regional foresight work, in the same way as we been done in the TUAS.

Sessions I 7

29 November 2019 11:15 - 12:45
Struve I (Dorpat)
Workshop
Higher education

'Learnings on learning & innovation networks ? ….. towards a toolbox for facilitators'

Keywords: Higher education, Innovations in education, Professional Development, Research cooperation frameworks
Interest group:

Learning- and innovation networks are hot. Professional learning communities, communities of practice & innovation and leaning communities emerge like flowers in spring. Here 'learning network' is used to indicate those social learning systems wherein aspects of learning, innovation and professionalisation are combined. Indeed, if you would want to start or facilitate such a network, the one million dollar question is: ' how to make it a success, what works and what

hinders value creation? In this workshop we invite researchers and practitioners to share their experiences, best and bad practices with learning networks (whether of theoretical, empirical and/or practical origin). It tries to assemble the learnings on starting and facilitating learning networks and merge them into a toolkit to support facilitators. The question is: What do we already know about the processes of value creation within learning networks and how can we transfer this knowledge(base) into practical rules of engagement and a toolkit, to support initiators and facilitators when starting a learning network. As to methods & interaction within this workshop we draw on a methodology developed for pop up temporary learning networks that every professional can start (4*4 Pit Stop Model for Learning Networks).

'Learnings on learning & innovation networks ? ….. towards a toolbox for facilitators'
Presenting Author: Max Aangenendt, The Hague University of Applied Sciences, Netherlands; **Presenting Author:**Christian Wallner, University of Applied Sciences Leiden, Netherlands; **Co-Author:**Tim Hoppen, The Hague University of Applied Sciences, Netherlands

Learning- and innovation networks are hot. Professional learning communities, communities of practice & innovation and leaning communities emerge like flowers in spring. Here 'learning network' is used to indicate those social learning systems wherein aspects of learning, innovation and professionalisation are combined. Indeed, if you would want to start or facilitate such a network, the one million dollar question is: ' how to make it a success, what works and what hinders value creation? In this workshop we invite researchers and practitioners to share their experiences, best and bad practices with learning networks (whether of theoretical, empirical and/or practical origin). It tries to assemble the learnings on starting and facilitating learning networks and merge them into a toolkit to support facilitators. The question is: What do we already know about the processes of value creation within learning networks and how can we transfer this knowledge(base) into practical rules of engagement and a toolkit, to support initiators and facilitators when starting a learning network. As to methods & interaction within this workshop we draw on a methodology developed for pop up temporary learning networks that every professional can start (4*4 Pit Stop Model for Learning Networks).

Sessions I 8

29 November 2019 11:15 - 12:45
Parrot (Dorpat)
Case study
Higher education

Educators' Professional Development B

Keywords: 21st century learning, Collaborative Learning, Continuing professional development in Teachers, In-service Teacher Training, Professional Development, School Development, Vocational education, Workplace learning
Interest group: CLOUD 01 - Teacher education
Chairperson: Niek van den Berg, Aeres University of Applied Sciences Wageningen, Netherlands

Developers' communities for improvement of teacher training and comprehensive education.
Keywords: Collaborative Learning, Continuing professional development in Teachers, School Development, Workplace learning
Presenting Author: Heikki Kontturi, University of Oulu, Finland; **Co-Author:**Viivi Seppänen, University of Oulu, Finland

Teachers with a university degree are internationally acknowledged to be a strength of the Finnish school system. However, teacher training universities, as well as in-service teachers today, face the challenge of reforming and updating their skills and practices to meet the needs of the present society. Research-based development and equal collaboration between educational stakeholders are seen as a key to improve the quality of Finnish education. OpenDigi-project aims to create developers' communities, where teacher trainers, teacher students and in-service teachers work with shared curriculum based challenges (File 1: toimintamalli_en.png).The starting point for teachers' collaboration as an OpenDigi community, is the identification of common challenges related to the implementation of the new curriculum. The participants' diverse knowledge and background are used as resources for their professional reflection, which increases the opportunities for active learning and development of new practical pedagogical solutions in collaboration. Simultaneously, the pedagogical expertise associated with the teachers' and teacher students' development of their teaching and learning skills are enhanced.

Pro-VET: Developing Russian and Serbian VET teachers' competences
Keywords: 21st century learning, In-service Teacher Training, Professional Development, Vocational education
Presenting Author: Frank De Jong, Aeres University of Applied Sciences & Open University Heerlen, Netherlands; **Presenting Author:**Eila Burns, JAMK University of Applied Sciences, Jyväskylä, Finland; **Co-Author:**Graham Burns, English Language Management, Finland; **Co-Author:**Vitaly Kopnov, Tver State University, Russian State Vocational Pedagogical Universit, Russian Federation; **Co-Author:**Mirko Savic, University of Novi Sad, Russian Federation

This case study introduces the aims and the initial steps taken in the Professional Development of Vocational Education Teachers in Russia and Serbia with reference to European Union practices and policies. The project 'Pro-VET' aims at developing a systematic approach to professionally develop 'Vocational Education and Training (VET)'-teachers (like in-service trainers, instructors, mentors) in Serbia and Russia by creating an e-learning platform offering training materials and courses. The project consortium consists of twelve partners: eight are from Russia and Serbia, and four from EU countries (Finland, Germany, Ireland and the Netherlands).The project started October 2018 and the country Russia and Serbian VET reports show development potential in the current state of the VET system, context and policy, with clear signposts of themes for professional teacher further education. Moreover, a small-scale study and gap analysis conducted in Serbia of VET teachers' perceptions of their teaching competencies further clarifies the current situation of VET. These efforts and other background information will help the Pro-VET project in developing the necessary and appropriate (re)training and professional development of VET teachers in Russia and Serbia. A parameters framework of developmental needs for developing online training modules are created and will be presented.

Sessions I 9

29 November 2019 11:15 - 12:45
Struve II (Dorpat)
Workshop
Secondary education

Educating future-proof teachers

Keywords: Initial Teacher Education (Pre-service), Innovations in education, Secondary school education, Teaching approaches
Interest group: CLOUD 01 - Teacher education

In this workshop, we focus on the role of teacher educators to educate future teachers to become future-proof professionals. We start with an introduction in which we present some 'vignettes' of schools in the Netherlands that work with innovative concepts. A characteristic of these schools is that they apply student-driven teaching concepts in their educational approach. Based on this introduction, participants are invited to exchange their ideas about the roles and tasks of future educational professionals. These ideas will be discussed plenary and together we define a set of roles for future educational professionals. With these roles as a starting point, in the second part of the workshop, participants are asked to think about teacher education: how can future teachers be prepared for these roles? Exchanging these ideas is a first step towards future teacher education.

Educating future-proof teachers
Presenting Author: Quinta Kools, Fontys Hogescholen, Netherlands; **Co-Author:**Hanneke de Laat, Fontys, Netherlands

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which we present some ‘vignettes’ of schools in the Netherlands that work with innovative concepts. A characteristic of these schools is that they apply student-driven teaching concepts in their educational approach. Based on this introduction, participants are invited to exchange their ideas about the roles and tasks of future educational professionals. These ideas will be discussed plenary and together we define a set of roles for future educational professionals. With these roles as a starting point, in the second part of the workshop, participants are asked to think about teacher education: how can future teachers be prepared for these roles? Exchanging these ideas is a first step towards future teacher education.

Sessions I 10

29 November 2019 11:15 - 12:45
Estonia + Latvia (VSpa)
Case study
Higher education

Research skills and Development in Higher Education

Keywords: Creativity, Higher education, Practice-based research (methodology), Professional Development
Interest group: CLOUD 11 - Practice-based Research Methodology
Chairperson: Kerstin Helker, RWTH Aachen University, Germany

Designerly ways of working of creative researchers in professional practices
Keywords: Creativity, Higher education, Practice-based research (methodology), Professional Development
Presenting Author: Arja Veerman, University of the Arts, Utrecht, Netherlands; **Co-Author:**Jan IJzermans, Hogeschool voor de Kunsten Utrecht, Netherlands

At HKU University of the Arts our postdoctoral program is aimed at the development of more methodological profiling considering research perspectives, approaches and ethics for doing practice-based research in the fields of arts and design (HKU, 2018). As part of this program we started with a small, in-depth study among four of our central researchers at HKU, who are all focused on creative processes: how do these processes work in practice, and how can we share and shape knowledge in collaboration with the practitioners in and from the fields? What was striking was how these researchers put forward their own ways of working, while balancing their roles of initiator, researcher and (co-) creator in relation to the practitioners they worked with and for in the fields. They used and embedded their sensitivities, their experiences, their creativity and their (perceived) authority. They intervened, and played with form. They delayed, accelerated and sometimes failed. They searched for risk, for friction, for getting into the un-known. The issue we like to raise is: how can we make more space for such ‘designerly’ ways of doing practice-based research, with and for practitioners, and what are the consequences for the quality of the research design.

Sessions I 11

29 November 2019 11:15 - 12:45
Lobby Room (VSpa)
Workshop
Lifelong learning

Transformative Learning Spaces: Towards Multidimensional Plurilingual Curriculum

Keywords: Bilingual education, Language Education, Learning styles / approaches, Multiculturalism in Education
Interest group: CLOUD 03 - Strategies to improve teaching and learning environments

This workshop is based on my recent study of plurilingual persons’ experiences using and learning several languages. Based on the examples from this study, I will argue, that language, learning and pedagogy need to be seen as interconnected and show, how this thinking can allow to construct transformative learning spaces for language and learning. We will go one step further together in the workshop – towards a multidimensional plurilingual curriculum, which allows teachers to take a fresh look at their teaching practices. We will take account in a broad understanding of language, where language covers over all linguistic and non-linguistic activities, that take place between and inside people in the physical, social, personal, cultural, and historical world they live in (*van Lier, 2000*). We will look at the learning process as active engagement in meaningful activities. And we will think about, how important it is to allow the students to use their language and culture when learning new content. Because we know, that we only can learn new content, if we can connect the new with something we already know.

Transformative Learning Spaces: Towards Multidimensional Plurilingual Curriculum
Presenting Author: Elina Maslo, University College Copenhagen, Department of Teacher Education, Denmark

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