25 September 2024 10:30 - 11:45
Keynote - Prof. Dr. Jan Vermunt 1
Theatre - Neude Library

Innovating Learning and Teaching in Higher Education

Keywords: challenge-based learning, educational development, research-based teaching, teaching innovation or innovative teaching practices

Interest group: SIG 04 - Higher Education

Chairperson: Stefan T. Siegel, University of St.Gallen, Switzerland

Presenting Author: Jan Vermunt, Eindhoven University of Technology, Netherlands

Universities aim to educate people to think independently, critically and deeply about problems in and around their discipline, and to keep on learning and developing throughout their professional lives. They also aim to enable graduates to work independently and collaboratively, to engage with society, to contribute to understanding and solving complex problems, and to communicate with people from other disciplines and practitioners. Traditional teaching- learning models that emphasize the transmission of knowledge from teachers to learners are increasingly considered inadequate to meet those aims. Project-based learning, personalized learning pathways, design-based learning, competency-based learning, work-based learning and challenge-based learning are just a few educational innovations that have been adopted to foster more active, deep, self-regulated, intrinsically motivated, collaborative, interdisciplinary, meaning- oriented and application-oriented student learning congruent with the above mentioned aims. Higher education is at the dawn of existing innovations in teaching and learning, many of them aimed at improving the quality and experience of student learning. Innovations like these require very different teacher roles than many are familiar with, such as tutor, skills assessor, problem designer, digital teacher, and coach of students' learning, problem solving and collaboration processes. Often teachers are struggling with these new roles. A variety of approaches to teacher professional learning and development are being used to help them. However, a solid knowledge base grounded in research evidence on if, how and why these approaches work in different contexts is only just beginning to appear. Moreover, research on teaching and teacher learning is often disconnected from research on student learning and instruction. This gap limits the impact of research on what goes on in daily practice. In this keynote Jan will share new research on two strands of inquiry: the design and effects of Challenge-based Learning and what that means for learners, teachers and curriculum design; and teacher professional learning and development in the context of educational innovations. Both strands are consortium-based in methodology, characterized by a close collaboration between researchers, teacher-researchers, visionaries and practitioners.

Poster Session I 1

25 September 2024 12:15 - 13:15
Room 4.9 La Vie - Meeting Center
Guided Poster Presentation Higher
Education

Poster Presentation Session 1: Evidence-Based Approaches to 21st-Century Skills

Keywords: adaptive learning, adaptive performance, challenge-based learning, digital learning, educational development, learning analytics, mixed methods, qualitative methods, research-based teaching, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education
Chairperson: Julia Eberle, Austria

Critical online reasoning for learning in higher education – Introducing a new research unit

Keywords: challenge-based learning, digital learning, educational development, mixed methods
Presenting Author: Paul Frederik Hodes, Johannes Gutenberg-University Mainz, Germany; **Co-Author:**Dimitri Molerov, Johannes Gutenberg University Mainz, Germany; Co-Author:Olga Zlatkin-Troitschanskaia, Johannes Gutenberg-Universität Mainz, Germany; Co-Author:Jennifer Fischer, Johannes Gutenberg- Universitaet, Germany; Co-Author:Lisa Martin de los Santos, RPTU Kaiserslautern-Landau, Germany; Co-Author:Lucas Trierweiler, Johannes Gutenberg University Mainz, Germany; Co-Author:Kevin Shenavai, Johannes Gutenberg-Universität Mainz business education, Germany

Students' self-directed learning using the Internet requires specific skills to research, select, evaluate and discern reliable information taken from credible sources for learning and exam preparation. This new cross-university, multidisciplinary and international research unit addresses the overarching question of how students can effectively use the Internet as a learning and information tool for academic success. The unit longitudinally assesses the level and development of students' skills in researching, evaluating, and using online information in four disciplines (economics & medicine, and sociology & physics) over the course of their studies in relation to students' learning outcomes (e.g., grades), and provides an in-depth analysis of online sources and content used by students for the assessment's online search tasks (e.g. accuracy, narrative characteristics), adding concurrent log data, and experimental eye-tracking data to a multimodal dataset. The poster presents the research unit's composition, study design, and illustrative analysis results from the first measurement point.

21st-Century Skills in Psychology Master Programmes: A Qualitative Study in The Netherlands
Keywords: educational development, qualitative methods, research-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Ayşegül Karaca-Atik, Erasmus University Rotterdam, Netherlands; Co-Author:Marieke Meeuwisse, Erasmus University Rotterdam, Netherlands; Co-Author:Marjan Gorgievski, Erasmus University Rotterdam, Netherlands; Co-Author:Guus Smeets, Erasmus University Rotterdam, Netherlands

In contemporary work environments, psychology graduates are often required to demonstrate 21st-century skills in their jobs. Recognizing the skills that the labour market demands, this qualitative study aims to explore to what extent and how psychology master programmes in the Netherlands incorporate training

21st-century skills into their curricula. The study consists of two parts. Part 1 involves scanning the intended learning outcomes of all Dutch psychology master programmes, where skills - aimed to teach students throughout a specific programme - are outlined. Part 2 employs a case study of a specific master programme to find out how 21st-century skills are being trained. The findings will contribute to the literature on psychology education by providing valuable insights into the integration of 21st-century skills in master programs and inform future curriculum developments.

Towards Informed Action: Strengthening Evidence-Informed Research Communication Beyond Academia
Keywords: adaptive learning, qualitative methods, research-based teaching, transformative learning

Presenting Author: Despoina Georgiou, Utrecht University, Netherlands; Co-Author:Yvette Baggen, Wageningen University, Netherlands; Co-Author:Mona Giersberg, Utrecht University, Netherlands; Co-Author:Gerbrand Koren, Utrecht University, Netherlands; Co-Author:Shauna O'Donovan, Technical University of Eindhoven, Netherlands; Co-Author:Kaja Chmielewska, Utrecht University, Netherlands; Co-Author:Willem Grootoonk, Utrecht University, Netherlands; Co-Author:Spyros Paparrizos, Wageningen Univerisity, Netherlands

In response to the increase in misinformation following the COVID-19 pandemic, this study aims to bridge the gap between scientific evidence and its reception among non-academic audiences. In detail, we focus on tailoring research dissemination efforts to better meet the needs and interests of non-academic audiences while addressing pressing societal issues such as climate change, nutrition, and animal welfare. Through interviews with non-academic staff members at a Dutch university, the current study assesses the efficacy of personalized communication strategies in empowering individuals beyond academia. Preliminary findings reveal a perceived distance to science within academic organizations, and reliance on online sources such as social media for information. Interviewee suggestions for improvement, including organizing events and enhancing media presence, emphasize the need to tailor dissemination efforts to effectively engage non-academic audiences on topics of societal importance. This study contributes to advancing the conversation on improving evidence dissemination beyond academia.

Prior knowledge and critical thinking in accounting
Keywords: educational development, mixed methods, research-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Ellinor Allen, Monash University, Australia; Co-Author:Colin Jevons, Monash University, Australia

The importance of critical thinking is undeniable, especially in the age of AI and in an accounting profession undergoing technology-driven transformation. Accounting education is failing to maintain relevance and alignment with graduate and employer needs in this context. Critical thinking is an often-cited graduate attribute, but is complex and difficult to measure. Many inventories of skills and dispositions implicitly rely on assumptions about the need for prior knowledge to facilitate critical thought. This notion is investigated in a tertiary accounting setting. The study involved a two-part weekly intervention as part of intermediate-level accounting students' assessment, prompting them to draw on introductory accounting knowledge from earlier study and integrate it with their new learning. While some students completed the tasks satisfactorily, others failed to do so - key factors being a failure to remember prior accounting content and a lack of motivation. We make suggestions for future research and teaching practice.

Embracing uncertainty: Implications for teaching development in times of global challenges
Keywords: adaptive performance, educational development, qualitative methods, teaching innovation or innovative teaching practices
Presenting Author: Anita Sekyra, Center of Teaching and Learning in Higher Education Saxony (HDS), Germany

The current situation in the world harbors a lot of potential for uncertainty. Wars and conflicts, division of society, climate crisis, involuntary migration, turning away from globalization, rising cost of living, pandemic and much more are unsettling people. Uncertainty is therefore not only a part of the pedagogical professions (Lange & Burroughs-Lange, 1994), but surrounds all fields of human development. But how do we deal with this omnipresent uncertainty? How do we guide learners through this unpredictable world? Is it only a burden or also an opportunity for learning and teaching in Higher Education? The Paper presentation analyzes the phenomenon of uncertainty in the context of Academic Development based on the results of an interdisciplinary systematic literature review and suggests possible implications for teaching and learning in Higher Education. Ideas are drafted for settings in which students, but also teachers and academic developers, can embrace uncertainty and explicitly practice dealing with it.

Preparing for the future: The development of student Psychological Capital through work placement. Keywords:
educational development, learning analytics, mixed methods, transformative learning
Presenting Author: Jacqueline O'Toole, Monash University, Australia; Co-Author:Alison Beamish, Monash University, Australia; Co-Author:Francesco Interrigi, Monash University, Australia; Co-Author:Kelly Benati, Monash University, Australia; Co-Author:Merideth Guy, Monash University, Australia

A rapidly changing, increasingly competitive, and dynamic globalised work context creates a need for graduating students to constantly adapt in uncertain and unpredictable careers. University work placements present an opportunity for graduating students to develop in a range of relevant work skills and abilities, such as Psychological Capital (PsyCap). PsyCap consists of resilience and adaptability which can assist students in navigating uncertain environments. The present study examines 602 Business School students' PsyCap development through qualitative and quantitative assessments at Time 1 (Pre-Placement) and Time 2 (Post-Placement). Preliminary results demonstrate a significant increase in PsyCap across the placement period from time one to time two. Additional quantitative and qualitative analysis is underway to further understand this. Findings will support the development of meaningful interventions and improvements in university placement programs

Poster Session I 2

25 September 2024 12:15 - 13:15
Room 4.7 / 4.8 La Vie - Meeting Center
Guided Poster Presentation
Higher Education

Poster Presentation Session 2: Academic Engagement and Motivation

Keywords: adaptive expertise, adaptive learning, adaptive performance, challenge-based learning, digital learning, educational development, evidence-based teaching, learning analytics, mixed methods, qualitative methods, quantitative methods, research-based teaching, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education
Chairperson: Taiga Brahm, University of Tübingen, Germany

Facilitating the transition to university learning via reflective activities in large classrooms.
Keywords: evidence-based teaching, learning analytics, research-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Jhotisha Mugon, University of Victoria, Canada

First-year university students are often overwhelmed trying to navigate workloads and expectations across classes. As instructors, we can support their transition into university by helping them build academic habits that promote self-regulation, motivation, and self-efficacy. The goal of this poster is to highlight a series of easy-to-implement activities that are meant to facilitate such academic habits amongst students in large classroom settings. Across 2 years, over 1000 Introductory Psychology students in each cohort completed low-stakes self-reflective activities about their planning, use of learning strategies, and motivation. They also attended an in-class workshop on how to improve their learning. Our findings suggest that these activities promote student self-regulation, learning, and self-efficacy – all of which are also associated with higher grades in the course. Thematic analyses of student responses highlight the benefits of such activities in helping students keep up with academic expectations/deadlines and, developing meta-cognitive skills.

Predictors of academic work engagement in higher education: A multiple linear regression analysis
Keywords: quantitative methods, research-based teaching, teaching innovation or innovative teaching practices, transformative learning
Presenting Author: Paula Ioana Cazan, West University of Timisoara, Romania; Co-Author:Laurentiu Maricutoiu, Universitatea de Vest din Timișoara,

Romania; Co-Author:Marian Ilie, West University of Timisoara, Romania

Academic work engagement (AWE) is an essential indicator of students' persistence in university studies and lifelong learning. Although most studies found motivation to be the primary predictor of AWE, variables like students' situational interest and learning approaches have yet to be considered. Based on a longitudinal two-wave design, this study aims to evaluate if situational interest and learning approaches, besides academic motivation, predict students' AWE. In both waves, 129 bachelor students (86,8% female, mean age = 21.36) voluntarily completed four quantitative questionnaires. We employed a 4-step multiple linear regression model to analyse the data. Beyond AWE's autoregressive effect (step 1), intrinsic motivation to experience stimulation emerged as a significant predictor in steps 2 and 3. In step 4, the deep learning approach overshadows the motivational influence, emerging as the most influential predictor. Empirical and methodological implications for understanding students' AWE and practical implications for higher education are further discussed.

Understanding procrastination
Keywords: adaptive learning, adaptive performance, educational development, learning analytics
Presenting Author:Henna Asikainen, University of Helsinki, Finland; Co-Author:Nina Katajavuori, University of Helsinki, Finland

University students experience academic procrastination frequently. Although research has acknowledged different factors in explaining procrastination, few studies have explored their effects together. The purpose of this study is to explore the associations of multiple aspects effecting procrastination such as learning approaches and time management, experiences of burnout, self-efficacy and psychological flexibility on procrastination. A total of 269 first year students from Life Sciences answered to the questionnaire in spring 2023. The preliminary analyses concerning the relationship between the measures were conducted with Pearson correlation and hierarchical regression model. The results showed that procrastination correlated statistically significantly with all the aspects included in the study. Furthermore, the linear regression showed that only Time and effort management and Inadequacy statistically significantly explained variation in procrastination. Time and effort management are crucial for preventing procrastination. Results will be further discussed in the conference

Exploring Self-Efficacy in Higher Education: a Mixed Method Study on Feedback and Attributions.
Keywords: adaptive learning, digital learning, mixed methods, qualitative methods
Presenting Author:Charlotte Van Tricht, University of Antwerp, Belgium; Co-Author:David Gijbels, University of Antwerp, Belgium; Co-Author:Vincent Donche, University of Antwerp, Belgium

In the transition from secondary to higher education, there is a rise in online self-report instruments that offer automated, personalized feedback for students. However, the impact of self-efficacy on the internal feedback processing of these adaptive feedback reports remains unclear, and providing feedback is pointless when it is not used. Recently, several systematic reviews have concluded that empirical knowledge of the internal processing of feedback is very limited. More specifically, there is a lack of knowledge regarding the influence of self-efficacy -students' self-perceptions about their ability to accomplish a task- and interaction with feedback attributions, which is consequently the focus of this study. Eye-tracking and EDA serve as basis for cued recalls, accompanied by a small interview and a self-report questionnaire in order to provide an in-depth understanding. Reading times calculated via AOI (area of interest) are also used. Analysis is ongoing and will be presented at the conference.

Supporting students' learning processes in interprofessional education
Keywords: challenge-based learning, educational development, qualitative methods, transformative learning
Presenting Author:Kaja Braathen, Kristiania University College, Norway

The scope of this paper is to present results of a study exploring how to support students' learning processes in an interprofessional education programme with undergraduate students across the disciplines of health-, social care, and education. The IPE- programme concerns interprofessional collaboration about and with children. The study is based on interview data (N= 15), draws on a sociocultural understanding of learning, and applies theoretical concepts from the scaffolding literature in the investigations. A main result is that in this context support ought to be provided both to individual students as well as the group as a whole, to support the students' learning processes.

Academics' teaching approaches: Pathways of interrelations between general and situational levels
Keywords: adaptive expertise, educational development, quantitative methods, teaching innovation or innovative teaching practices
Presenting Author:Marian Ilie, West University of Timisoara, Romania; Co-Author:Liisa Postareff, HAMK University of Applied Sciences, Finland; Co- Author:Anna Parpala, University of Helsinki, Finland; Co-Author:Velibor Mladenovici, West University of Timisoara, Romania; Co-Author:Laurentiu Maricutoiu, Universitatea de Vest din Timișoara, Romania

Academics' approaches to teaching (ATAs) were revealed to have effects on students' approaches to learning. Thus, studies investigating ATAs could highlight important information to improve the quality of pedagogical initiatives dedicated to academics. Current studies have mainly concentrated on investigating ATAs in situational teaching contexts. This study used the network analysis on data (N = 555, 59% female) collected with two inventories to investigate pathways of interactions between general and specific contexts of ATAs. The results show that there is a difference in how academics approach their teaching in a specific situation and when they focus on their approaches at a more general level. Also, results suggested that the interactions between general and specific context ATAs could be rooted in the academics' understanding of the subject matter taught and based on different mechanisms to adopt one or another of the main ATAs (i.e., student-focused, and teacher-focused).

Poster Session I 3

25 September 2024 12:15 - 13:15
Room 5.7/ 5.8 La Vie - Meeting Center
Guided Poster Presentation
Higher Education

Poster Presentation Session 3: Digital Competence and Game-Based Learning in Higher Education

Keywords: adaptive learning, AI in higher education, challenge-based learning, digital learning, educational development, evidence-based teaching, mixed methods, qualitative methods, quantitative methods, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 01 - Assessment and Evaluation, SIG 04 - Higher Education
Chairperson: Caroline Trautwein, Germany

Evaluation of Teaching-Learning Tools for Promotion of Students' Media-Didactic Knowledge and Skills
Keywords: digital learning, educational development, quantitative methods, teaching innovation or innovative teaching practices
Presenting Author:Katharina Frank, Johannes Gutenberg-Universitaet Mainz, Germany; Co-Author:Olga Zlatkin-Troitschanskaia, Johannes Gutenberg University of Mainz, Germany; Co-Author:Jasmin Schlax, Johannes Gutenberg University of Mainz, Germany

University teacher training courses, which prepare students for complex teaching situations, are undergoing rapid technological changes, as is the professional environment of teachers. There has been increasing demand for the competent use of digital media in the classroom, which requires media-didactic knowledge and skills from teachers. Prospective teachers often report that they're insufficiently prepared to put their knowledge into practice, as such practice is inadequately embedded in teacher training. Action and practice-related multimedia teaching-and-learning tools can effectively complement traditional university approaches. This paper presents the evaluation results of new tools which foster media-didactics, obtained in a pre-post design with a control group. The findings indicate that these tools can support students' self-directed learning, thereby potentially addressing the increasing heterogeneity of trainee teachers' learning preconditions. However, further development of these tools is needed to better promote barrier-free digital access and inclusion of students with special needs in higher education.

Regulatory profiles and students' satisfaction with flipped class in Higher Education

Presenting Author:Jose Reinaldo Martinez-Fernandez, Universitat Autònoma de Barcelona, Spain; Co-Author:Anna Ciraso, Universitat Autònoma de Barcelona, Spain; Co-Author:Ingrid Noguera Fructuoso, Universitat Autonoma de Barcelona, Spain; Co-Author:Antonio Vega Martínez, Universidad Autonoma de Barcelona, Spain

Flipped classroom has been lately implemented in Higher Education in order to foster active participation and independent learning; however, it is a strategy that can generate challenges for students that do not have effective self-regulation strategies. In this study, the relationship between different regulation profiles and satisfaction within a flipped classroom experience at university is analysed. A total of 202 university students participated, answering the regulation strategies sub-scales of the ILS inventory and a final questionnaire on satisfaction with the flipped classroom and the perception of learning during this didactic experience. The results show a clear relationship between the self-regulation profile and satisfaction with the flipped classroom, although satisfaction was also found in students with an external regulation profile. However, the latter were not satisfied with their academic performance. The importance of designing personalised learning pathways based on the regulation profile is highlighted.

Graphic Novel meets Assessment: Enriching the Assessment of Digital Competences using Gamification
Presenting Author:Pascale Stephanie Petri, Hochschule für Wirtschaft und Umwelt Nürtingen-Geislingen, Germany; Co-Author:René Krempkow, Hochschule für Technik und Wirtschaft, Berlin, Germany

Facing the changing landscape within and outside of higher education, students are required to have – at least a basic level of – digital competences (DC). Higher education institutions (HEI) are expected to foster DC. However, a substantial percentage of students lacks the required competences. As a starting point, high quality assessment is seemingly needed to inform HEI on which aspects to focus with trainings and to help students to reflect on their results. We address this need in two ways: First, we present an open-access 'traditional self-report questionnaire together with data about its psychometric quality (norming sample, n > 7000). Second, we present a gamified version of it (embedded in a graphic novel) alongside with first results concerning its psychometric properties (n = 221). Analysing sample statistics, results indicate that the two versions are comparable. Finally, we discuss student's user experience with the gamified version as well as potential motivational benefits.

Evaluation of Critical Thinking Processes in Selection and Use of Information by University Students
Presenting Author:Katharina Frank, Johannes Gutenberg-Universitaet Mainz, Germany; Co-Author:Dominik Braunheim, Johannes Gutenberg-Universitaet, Germany; Co-Author:Olga Zlatkin-Troitschanskaia, Johannes Gutenberg University of Mainz, Germany; Co-Author:Marie-Theres Nagel, Johannes Gutenberg University Mainz, Germany; Co-Author:Richard Shavelson, Stanford University, United States

Free access to a wealth of unreliable, inaccurate and contradictory information requires students to take a critical approach to online media and its content. The skillset to critically evaluate and use sources in argumentative conclusions (Critical Thinking; CT) is becoming increasingly important for academic and professional success. For effective promotion of CT skills in academic studies, the valid assessment of these skills is indispensable, whereby the complexity of development and validation of holistic performance assessment must be considered. To measure university students' CT skills, a scenario-based performance assessment with a realistic simulation of a decision-making situation was developed in an international consortium, based on a selection of online information of varying credibility and relevance. This paper presents the results of evaluating students' CT skills by performing Cognitive Labs in Germany, in which students' response processes to the performance assessment were assessed using Think Aloud data, following an internationally standardized protocol.

Escaping a second time round.
Presenting Author:Freija ter Heegde, University Utrecht, Netherlands; Co-Author:Anneke van Houwelingen, University Utrecht, Netherlands

Game-based learning has been shown to improve student motivation and engagement and, thus, improve student performance. To investigate this effect of game-based learning, we co-created and implemented an escape room based on general principles of pharmacokinetics tailored to undergraduate bachelor students. The effect on students' perceptions of the motivational climate was measured via a mixed-method design using pre- and post-test measurements of the MUSIC® inventory combined with two open-ended questions. Data from the initial study revealed that the escape room increased students' situational interest yet was not perceived as a useful tool for formative assessment. Following this pilot study, a second, more extended study was initiated after making small adjustments to enhance the immersive experience and improve alignment. In addition, data acquisition was expanded to include multiple timepoints and cohorts, and an indication of the increase in knowledge. The outcomes of the extended study will be presented during the conference.

Assessment in HE in the Era of AI: Towards a Framework for Analysing Authentic Assessment Practices
Presenting
Author:Mònica Feixas, Zurich University of Teacher Education, Switzerland

Higher education providers need to think systematically about how the increased use of AI-tools and, in particular ChatGPT, will change their practices. This raises important questions for quality assurance and institutional policies and broader questions about employability, social justice and the skills required to thrive in an AI-dominated world of work. Assessment practices are being challenged and beyond the deficit model where students use these tools to commit academic malpractice, authentic assessments using AI must be considered. We will present results of a Delphi Study (Feixas & Zimmermann, 2023) and of two SoTL projects (Feixas, Bajka & Weng, 2024) looking at how students have used and learnt in authentic assessment practices with ChatGPT. Based on these studies a framework to evaluate AI in higher education assessments focusing on the dimensions of fairness, inclusivity, authenticity, engagement, ethical reasoning, evaluative judgement, and data protection will be presented.

Poster Session I 4

25 September 2024 12:15 - 13:15
Room 5.9 La Vie - Meeting Center
Guided Poster Presentation Higher
Education

Poster Presentation Session 4: Interdisciplinarity and Educational Research Skills

Chairperson: Meg Farrell, Technische Universität München, Germany

Disciplinarity as a Challenge for Innovation: Experiences from a Teaching Innovation Project
Presenting Author:Hannah Sloane, Paderborn University, Germany; Co-Author:Tobias Jenert, Paderborn University, Germany

Within a higher education (HE) context, disciplinary cultures have a profound effect on the development and transfer of teaching innovations. When people from different disciplines collaborate – either to develop a teaching innovation or to transfer an existing concept into another discipline – irritating moments may occur. We have developed a workshop series aimed at improving the chances of HE innovations being transferred into other disciplines. These were conducted with a group of PhD students involved in teaching innovation, taking place every two months over a period of three years, to foster a reflective relationship with their own and each other's disciplinary culture(s). We interviewed the participants (N=12) three times after different workshops and asked them about exemplary situations they found surprising or indeed irritating. Results show that over time the participants are better in recognizing irritations due to disciplinary differences

and in harnessing them to improve interdisciplinary collaboration.

Narrative Foresight as Strategy to Explore Future Competences for Translator Education
Keywords: adaptive learning, educational development, qualitative methods, transformative learning
Presenting Author: Karolina Levanaitė, Vilnius University, Lithuania

This research navigates the realm of learning and competence development for the uncertain future, focusing on the evolving landscape of translator education. The field has been profoundly impacted by technological advancements including neural machine translation as well as the general uncertainty which is an inseparable aspect of translators' work. Leveraging narrative foresight methods pioneered by Milojevic and Inayatullah (2015), this research
juxtaposes translator competences envisioned in narratives of possible, probable and preferred futures against competences currently emphasised in European university translation programmes. In March-June 2023, a series of semi-structured interviews and focus groups involving professional translators, students, and translator educators from universities in Lithuania, Ireland, and Germany (N=25) were conducted. Thematic analysis following Braun and Clarke's (2007) framework has revealed prominent storylines, or myths, exposing a major gap between envisioned future competences and those which underlie the existing curriculum foundation of translation programmes across European universities.

Norwegian higher education teachers' beliefs about teaching and research on teaching
Keywords: educational development, evidence-based teaching, mixed methods, research-based teaching
Presenting Author: Leila Ferguson, Kristiania University College, Norway

There is increased focus on evidence-based teaching and systematic development of teaching practice, but educators at the tertiary level may hold beliefs about teaching and learning that are at odds with educational research. This study focuses on teachers' beliefs about teaching and research on teaching in a HE setting in Norway, employing a theoretical framework from literature on teacher beliefs, evidence-based practice and Scholarship of Teaching and Learning (SoTL). We used an embedded design approach where the phenomena were first explored in a quantitative and qualitative manner in an online survey, followed by qualitative investigation through individual interviews. Results showed a preference for personal sources of teaching knowledge, as well as more collegial ways of developing teaching practice, as well as varied understandings of SoTL that under-emphasized the important role of using educational evidence and of sharing own research findings.

Fostering Evidence-Informed Entrepreneurship Education: Strategies for Higher Education Faculty
Keywords: AI in higher education, evidence-based teaching, qualitative methods, teaching innovation or innovative teaching practices
Presenting Author: Lisette Jacobi, Hanze University of Applied Sciences, Groningen, Netherlands; Co-Author:Despoina Georgiou, Utrecht University, Netherlands

Entrepreneurship education courses are increasingly vital for fostering lifelong learning. However, the design of these courses often lacks evidence-based foundations. This study delves into the experiences of higher education teachers regarding the gap between evidence and teaching practice in Entrepreneurship education. We explore effective strategies to bridge this gap and identify barriers and facilitators for evidence-informed teaching practices. Through twelve semi- structured interviews with teachers from ten Dutch universities, the study unveils challenges in translating evidence into practice and inherent obstacles within the practice-oriented nature of Entrepreneurship education. Thematic analysis was used to analyze the data. Findings highlight challenges in implementing evidence-based practices in Entrepreneurship education, exacerbated by time constraints. The study underscores the importance of teachers' experiences and continuous learning and development to address these gaps. The implications highlight the necessity for faculty to foster environments that promote knowledge exchange and experimentation within Entrepreneurship education.Keywords: evidence-informed teaching, entrepreneurship education, higher education.

Education through Entrepreneurship: Developing self-direct competencies in Higher Education
Keywords: challenge-based learning, qualitative methods, quantitative methods, research-based teaching
Presenting Author: Tobias Jenert, Paderborn University, Germany; **Presenting Author:**Ronja Büker, Paderborn University, Germany

This research explores the significance of entrepreneurship in Higher Education (HE), emphasizing its role in equipping students with skills vital for success and personal development. Focused on education through entrepreneurship, the study draws on Zimmerman's social-cognitive theory to guide interventions in HE settings. The research methodology, incorporating Design-Based Research principles, involves repeated cycles to understand the effectiveness and robustness of interventions. Through eight tests in diverse HE contexts, the study identifies crucial design principles for achieving both useful and robust effects. The findings emphasize the importance of scientific rigor and practical relevance. Additionally, the research highlights the theoretical and educational significance of integrating entrepreneurship into HE, corresponding to increasing demands for HE to foster personal skills such as problem-solving, creativity, adaptability, accountability, and self-direction.

Preparing for internationalized teaching and learning experiences
Keywords: educational development, qualitative methods, research-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Beste Yıldırım, Eötvös Loránd University, Budapest, Hungary; Co-Author:Helga Dorner, Eötvös Loránd University, Hungary

Through interviews with 24 international academic developers, the research unveils the micro, meso, and macro-level complexities influencing the support for internationalized teaching and learning. Preliminary analyses highlight faculty's challenges and low motivation at the micro level, meso-level dynamics of (not) recognizing teaching skills vis-à-vis research performance and the particular departmental norms, and macro-level considerations where internationalization should not solely be seen as a quantifiable indicator of institutional excellence but a culturally embedded activity reflecting norms, values of those involved in teaching and learning. The study emphasizes the need for coordinated efforts, also involving leadership and academic development work, to address equity, diversity, and institutional norms, shedding light on potential strategies and discussing the limitations of the findings.

Effective Research Tasks for Fostering Research Skills and Dispositions in Teacher Education
Keywords: challenge-based learning, educational development, learning analytics, research-based teaching
Presenting Author: Julia Raberger, University of Vienna, Austria; Co-Author:Dominik E. Froehlich, University of Vienna; New Design University, Austria; Co-Author:Carla Quesada-Pallarès, Universitat Autònoma de Barcelona, Spain; Co-Author:Konstantinos Gkaravelas, University of Ioannina, Greece, Greece; Co-Author:Kristin Weiherer, University of Regensburg, Germany; Co-Author:Ulrich Hobusch, University College for Agricultural and Environmentral Education, Austria

It is becoming increasingly clear that research skills are an important component of teacher education. As the educational literature recommends emphasising active student participation through independent research, we have developed a service-learning experience in which teacher education students work with in- service teachers on research projects that address real school challenges. But what authentic research tasks create an effective learning environment in which students can maximise the development of their research skills and dispositions? To demonstrate this, a scale will be developed to measure students' perceptions of school challenges in terms of competency domains, authenticity and the creation of effective learning environments.

Paper Session I 1

25 September 2024 14:00 - 15:30
Room 5.7/ 5.8 La Vie - Meeting Center
Oral Paper Presentation
Higher Education

Paper Presentation Session 1: Access and Equity in Higher Education

Keywords: adaptive performance, educational development, evidence-based teaching, learning analytics, mixed methods, qualitative methods, quantitative methods, research-based teaching
Interest group: SIG 04 - Higher Education

Chairperson: Barbara Getto, Zurich University of Teacher Education , Switzerland

The impact of summer bridge programs on first-generation students: A field experiment

Keywords: evidence-based teaching, mixed methods, quantitative methods, research-based teaching

Presenting Author: Izaak Dekker, Amsterdam University of Applied Sciences (AUAS), Netherlands; **Presenting Author:**L. de Coninck, Hogeschool van Amsterdam, Netherlands; Co-Author:Felicitas Biwer, Maastricht University, Netherlands; Co-Author:Niklas Wenzel, School of Health Professions Education (SHE) - Maastricht University, Netherlands; Co-Author:Sanne van Herpen, Erasmus Universiteit Rotterdam, Netherlands; Co-Author:Tieme Janssen, Vrij Universiteit Amsterdam, Netherlands

Many higher education institutions organize summer bridge programs (SBP) to prepare students for college. Often these programs are targeted at so-called at- risk groups, such as students who are the first in their family to attend college. This study aimed to evaluate the impact of two different types of SBP for first- generation students: (i) empowering students' academic capital, and (ii) stimulating students' mindset and metacognition. 255 SBP-applicants were randomly assigned to the programs, and compared with 161 first-generation students who did not attend any SBP. Only 33% of the 255 students who enrolled for the SBPs self-identified as first-generation students. Students in program (ii) scored higher on metacognition and mindset on the post-test compared to both other conditions. First-generation students in program (i) scored higher on aspects of academic capital formation, while non-first-generation students actually scored lower. We used interviews, focus groups, and participative observations to further interpret these results.

Being a first generation student in a talent program: Do I belong?

Keywords: educational development, mixed methods, qualitative methods, quantitative methods

Presenting Author: Annegien Langeloo, Hanze University of Applied Sciences, Netherlands; Co-Author:Elanor Kamans, Hanze University of Applied Sciences, Netherlands

Recent research indicates that selective honours programs in higher education are less accessible to first-generation students. However, little is known about what causes this. The current project therefore addresses the accessibility of honours education and the social identity factors accounting for this. More specifically, we investigate to what extent first-generation honours students experience *identity incompatibility* and whether this affects *sense of belonging* and *self-efficacy*. A survey study at two time points shows that first-generation students indeed experience more identity incompatibility but this does not always relate to lower sense of belonging or self-efficacy. In a follow-up qualitative interview study ($N = 12$) we found that generational status is not very identity-defining and that the identity of being an honours student is more so defined by shared motivation and ambition, resulting in strong feelings of belonging in honours.

Study profiles of first-year university science and mathematics students: who are at risk?

Keywords: adaptive performance, educational development, learning analytics, quantitative methods

Presenting Author: Henna Kevarinmäki, University of Turku, Finland; Co-Author:Jake McMullen, University of Turku, Finland; Co-Author:Tommi Kokkonen, University of Turku, Finland; Co-Author:Vesa Korhonen, Tampere University, Finland

Higher education institutions are struggling with high numbers of students dropping out of their studies or transferring to another field. This is an issue specifically in STEM fields, where increasingly more workforce is needed to answer the needs of the labor markets and society. Even though plenty of research has been conducted on drop-out, the multifaceted phenomenon isn't yet fully understood. We approach this issue by exploring study profiles within first-year science and mathematics students. Study profiles were observed through latent profile analysis and the variables included were interest, self-efficacy, learning approach, and academic stress. Additionally, a three-step method was conducted to see how profile membership predicts grade point averages. We identified five different study profiles, of which two came across as at-risk profiles. Identifying at-risk students helps universities to reduce dropout rates and gives more information on the reasons behind drop-out.

Social support and dropout intentions in first generation university students: A longitudinal study

Keywords: educational development, mixed methods, qualitative methods, quantitative methods

Presenting Author: Julia Eberle, Paris Lodron University Salzburg, Austria; Co-Author:Daniel Althoff, Ruhr-University Bochum, Germany

First generation students lack social support from their family when they transition to higher education. Consequently, building peer-networks may be very important to them. In this paper, we investigate how drop-out intentions and informational-support networks of first-generation students and continuing- generation students change over the course of their first semester. Based on longitudinal survey-data of a student cohort in a German B.A. program with a sample of N = 149 students, inferential statistics and extreme case analyses of students' ego-networks are provided. Findings show an increase of drop-out intentions and a decrease of the number of peers in students' informational support networks (degree) over the course of the semester but no differences between FGS and CGS. The ego-networks support this finding and provide additional insights that a decrease in efficiency of ego-networks goes along with the increase of drop-out intentions. Generalizability of these findings is discussed.

Paper Session I 2

25 September 2024 14:00 - 15:30
Room 5.1 La Vie - Meeting Center
Oral Paper Presentation
Higher Education, Learning and Instructional Technology

Paper Presentation Session 2: Digital Learning and Ai in Higher Education

Keywords: adaptive learning, AI in higher education, digital learning, educational development, learning analytics, qualitative methods, quantitative methods, sustainability, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education

Chairperson: Lena Sofie Kegel, University of Münster, Germany

Inquiry-Based Learning, Critical Reflection, and AI Utilization in Higher Education

Keywords: AI in higher education, qualitative methods, quantitative methods, teaching innovation or innovative teaching practices

Presenting Author: Anthea Jasmin Maren Moravanszky, University of Szeged, Doctoral School of Education, Switzerland

In acknowledgment of Artificial Intelligence (AI) becoming an integral part of students' lives, educators face the imperative of moving beyond prohibition and embracing meaningful integration into the curriculum. This research contextualizes AI within a bachelor's degree course in higher education, exploring its potential and challenges while highlighting its collaborative role alongside established learning techniques.The context of this AI integration was an assignment in an engineering course focused on writing software requirements, with students critically assessing outputs and reflecting on their quality. The evaluation included a qualitative and quantitative analysis of the students' prompts and a questionnaire capturing their experiences and perspectives on AI in academic life. Findings revealed diverse AI interaction approaches, with students emphasizing the role of prior knowledge. The study demonstrated improvements over previous semesters and highlighted the need for guided AI integration in higher education.

Fostering Inclusive Learning Through Purposeful Use of Digital Learning Materials

Keywords: adaptive learning, digital learning, teaching innovation or innovative teaching practices, transformative learning

Presenting Author: Anthea Jasmin Maren Moravanszky, University of Szeged, Doctoral School of Education, Switzerland

The COVID-19 pandemic accelerated the adoption of digital solutions in education, promoting online learning and enhancing accessibility, especially for individuals with visual disabilities. While the benefits of digital tools are evident, there is a risk of unintentional barriers arising from a lack of awareness and oversight in creating genuinely accessible content. This case study evaluates the accessibility of digital tools within an engineering course delivered in a hybrid format, combining digital in-person and remote learning materials and tools. The study addresses visually impaired students' challenges and explores design

improvements to enhance accessibility. The study underscores the need for a thoughtful and conscious approach to utilizing digital tools to create an inclusive learning environment. Its findings provide educators and instructional designers valuable insights to ensure accessibility and inclusion in digital learning environments.

Innovation for better understanding: Using AI to assess learner experience in open, online courses
Keywords: AI in higher education, digital learning, learning analytics, teaching innovation or innovative teaching practices

Presenting Author: Christopher Deneen, University of South Australia, Australia; Co-Author:Maarten DeLaat, University of South Australia, Australia; Co- Author:Alrike Claassen, University of South Australia, Australia; Co-Author:Andrew Zamecnik, University of South Australia, Australia

This paper explores the application of artificial intelligence (AI) in Massive Open Online Courses (MOOCs) to enhance student engagement and outcomes. MOOCs, known for their broad access, often suffer from high dropout rates and a lack of effective engagement metrics. Addressing these issues, our research employs a large language model (LLM) for a deeper analysis of MOOC participants' experiences. Using data from an open online course at an Australian university, our dual-method approach compares human and LLM coding to evaluate the LLM's accuracy against human performance. Initial results show the LLM's noncomplex model achieving 60% reliability with human coders, with potential for enhanced results beyond this. The findings highlight AI's capacity to significantly improve engagement measurement in MOOCs. The use of LLMs for qualitative data analysis presents a fast and reliable technique, with promising implications for broader educational applications.

AI Literacy and Teacher Professionalism: Towards Ethical Implementation of AI in Teacher Education
Keywords: AI in higher education, educational development, sustainability, teaching innovation or innovative teaching practices

Presenting Author: Olivia Rütti-Joy, University of Teacher Education St.Gallen, Switzerland; Co-Author:Georg Winder, University of Teacher Education St.Gallen, Switzerland; Co-Author:Horst Biedermann, University of Teacher Education St.Gallen, Switzerland

This conceptual chapter addresses the evolving demands on teacher educator professionalism and the role of teacher education institutions in age of AI. Synthesising the conceptual and empirical literature on Artificial Intelligence in Education (AIEd), this paper proposes that comprehensive AI and AI-related ethical knowledge, integrated in the concept of "AI Literacy", represent two inextricably intertwined facets of knowledge of professional competence that are crucial for enabling an ethical and effective integration of AI into teaching and learning. The presentation explores avenues through which these key components of teacher professional competence can be addressed on the micro, meso and macro levels of institutional education. By consolidating the specific requirements in a framework for teacher professionalism in the age of AI, the necessity for continuous adaptation of teacher education institutions, ongoing multidisciplinary collaboration of a large variety of stakeholders, and the provision of professional development of (teacher) educators is highlighted.

Paper Session I 3

25 September 2024 14:00 - 15:30
Room 5.3 La Vie - Meeting Center
Oral Paper Presentation
Higher Education, Learning and Social Interaction

Paper Presentation Session 3: Learning Environments and Teacher-Student Interactions

Keywords: adaptive expertise, adaptive learning, adaptive performance, digital learning, educational development, mixed methods, qualitative methods, quantitative methods, research-based teaching, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education, SIG 10 - Social Interaction in Learning and Instruction
Chairperson: Irene Douwes-van Ark, University of Groningen, Netherlands

Students' Challenges in the Transition to Distance Higher Education – a Scoping Review
Keywords: digital learning, educational development, mixed methods, qualitative methods

Presenting Author: Caroline Trautwein, IU Internationale Hochschule, Germany; Co-Author:Roxana Schweighart, IU Internationale Hochschule, Germany; Co- Author:Julian Alexander Rebien, IU Internationale Hochschule, Germany; Co-Author:Anna Maria Pampel, IU Internationale Hochschule, Germany; Co- Author:Michael Hast, IU Internationale Hochschule, Germany

The global trend toward distance higher education (HE) has spiked recently, set to reach 46.5 million enrollees by 2028. Many students, particularly mature ones with work and familial responsibilities, choose online education because of its flexibility. The transition into HE is critical to success for both on-campus and remote students. However, drop-out rates in distance HE are higher than on-campus due to factors such as lack of motivation, limited student interaction and a weaker sense of belonging to one's HE institution. The paper presents results of a scoping review, addressing a gap in knowledge about the challenges faced by students transitioning into distance HE. After an exhaustive search, 58 relevant studies were identified and subjected to an in-depth analysis. Results regarding the specific transition challenges of distance learners in HE are presented to provide theoretical and practical knowledge to improve students' transition into distance education.

The Development of Diverse Students' Support Networks in the Transition to Higher Education
Keywords: adaptive expertise, adaptive learning, adaptive performance, quantitative methods

Presenting Author: Pieter van Lamoen, Erasmus University Rotterdam, the Netherlands, Netherlands; Co-Author:Jasperina Brouwer, University of Groningen, Netherlands; Co-Author:Marieke Meeuwisse, Erasmus University Rotterdam, Netherlands; Co-Author:Annemarie Hiemstra, Erasmus University Rotterdam, the Netherlands, Netherlands; Co-Author:Arends Lidia, Erasmus University Rotterdam, Netherlands; Co-Author:Sabne Severiens, Erasmus University Rotterdam, Netherlands

Social and academic support networks are crucial to facilitate students' transition to higher education (HE). Developing these networks can however be challenging, and research indicates that background factors, such as ethnic background or being a first-generation in HE student, influences network development. To organize support during the transition to HE, it is therefore important to gain insight how these background related characteristics influence students' peer networks. This study aims to gain insight in these processes by employing longitudinal complete social network data collected over three times points (2023-2024) among first-year Psychology students ($n = 247$). Preliminary findings based on stochastic actor-oriented modelling show that first- generation in HE students do not differ from continuing-generation peers regarding their friendship networks, but that they have a lower tendency to connect to peers for study-related help. Furthermore, our results show a strong tendency among students for ethnic homophily in both friendship and study-related networks.

Unveiling the Role of the Learning Environment for Students' Transition to Higher Education
Keywords: mixed methods, qualitative methods, quantitative methods, transformative learning

Presenting Author: Taiga Brahm, University of Tübingen, Germany; Co-Author:Mikaël De Clercq, Université catholique de Louvain (UCL); Académie de Recherche et de l'Enseignement Supérieur (ARES), Belgium; Co-Author:Franziska Zellweger, Zurich University of Teacher Education, Switzerland

Limited research has addressed the role of the learning environment for students' successful transition to Higher Education. This scoping literature review, following PRISMA guidelines, investigated what kind of learning environment supports students in their transition to HE. From 368 peer reviewed publications identified in advanced searches, 60 papers were selected and categorized into micro, meso, and macro levels of the LE. At the micro level, instructional practices, specific introductory courses and socialization in the discipline were major themes. Studies at the meso level explored support initiatives as well as curricular approaches. The macro level examined interinstitutional diversity and institutional characteristics. Overall, our scoping review shows that the learning environment can be an important lever to support students' transition.

A Deep Dive into the Causal-temporal Relationship Between How Student-Teachers Teach and Learn
Keywords: quantitative methods, research-based teaching, teaching innovation or innovative teaching practices, transformative learning

Presenting Author: Daniela Voinescu, West University of Timisoara, Romania; Co-Author:Marian Ilie, West University of Timisoara, Romania; Co- Author:Velibor Mladenovici, West University of Timisoara, Romania; Co-Author:Paula Ioana Cazan, West University of Timisoara, Romania; Co- Author:Mădălin Bunoiu, West University of Timisoara, Romania; Co-Author:Claudiu Bunăiașu, University of Craiova, Romania; Co-Author:Ciprian Ceobanu, "Alexandru Ioan Cuza" University, Iași, Romania; Co-Author:Constantin Cucoș, "Alexandru Ioan Cuza" University, Iași, Romania; Co-Author:Teodora Chicioreanu, Polytechnic University of Bucharest, Romania; Co-Author:Daniela Dumitru, Academy of Economic Studies, Bucharest, Romania; Co- Author:Loredana Manasia, Polytechnic University of Bucharest, Romania; Co-Author:Mihaela Modoran, "Ovidius" University, Constanţa, Romania; Co- Author:Adrian Opre, "Babeș-Bolyai" University, Cluj-Napoca, Romania; Co-Author:Nicu Panea, University of Craiova, Romania; Co-Author:Ovidiu Pânișoară, University of Bucharest, Romania; Co-Author:Cristian Petre, "Ovidius" University, Constanţa, Romania; Co-Author:Grigore Piroșca, Academy of Economic Studies, Bucharest, Romania; Co-Author:Florin Popa, Romanian Ministry of Education, Romania; Co-Author:Anna Soós, "Babeș-Bolyai" University, Cluj- Napoca, Romania

The relationship between teaching approaches and learning approaches was examined only in the context of the interaction between two distinct groups: teachers and their students. The present study aims to analyze the causal-temporal relationship between the learning and teaching approaches of a double- perspective group, student-teachers. Based on a three-wave longitudinal design, we used the autoregressive cross-lagged panel model analysis on data collected at three different times from 489 teacher-students (39.3% female, mean age = 25.73) from eight Romanian Universities. Student-teachers' teaching and learning approaches mutually and longitudinally influence each other. Our results indicate that student-teachers who tend to be more student-centered also adopt a deep learning approach, and vice-versa. Furthermore, student-teachers who adopt a surface learning approach are more likely to not focus on stimulating students' learning during lessons. The study can have a significant impact on the structure of initial training programs (e.g. course content, skill development, teaching methods).

Paper Session I 4

25 September 2024 14:00 - 15:30
Room 4.7 / 4.8 La Vie - Meeting Center
Oral Paper Presentation
Higher Education, Motivational, Social and Affective Processes

Paper Presentation Session 4: Well-Being and Mental Health in Higher Education

Keywords: adaptive learning, adaptive performance, challenge-based learning, digital learning, educational development, mixed methods, qualitative methods, quantitative methods, sustainability, teaching innovation or innovative teaching practices
Interest group: SIG 04 - Higher Education, SIG 17 - Methods in Learning Research
Chairperson: Karolina Doulougeri, Eindhoven School of Education, Netherlands

Students with Mentally Ill Parents: Combining Microstructural and Systemic Analysis
Keywords: adaptive performance, challenge-based learning, qualitative methods, sustainability **Presenting Author:**Tonina Liriel AUREL, University of Vienna, Austria

Students raised in households with mentally ill parents encounter diverse challenges, encompassing neglect, stigmatization, and financial uncertainty. This paper explores how the combination of microstructural analysis and system analysis offers a profound insight into their educational biographical experiences. The inquiry scrutinizes the ways in which these methodologies deepen understanding and the resulting implications for the tertiary education sector. Based on biographical-narrative interviews with seven students, the study unveils that, notwithstanding challenging circumstances like financial independence and assuming responsibilities for their ailing parents, the motivation for education remains unwavering. This research contributes to discerning the specific needs of these students, advocating for the creation of an adapted, supportive environment. The amalgamation of microstructural analysis and system analysis facilitates a comprehensive grasp of contextual relationships concerning intentions, structural conditions, and system dynamics. Overall, the findings underscore the imperative for needs-based support to establish equitable educational opportunities for students with mentally ill parents.

Psychological flexibility and organised studying to support university students' well-being
Keywords: digital learning, educational development, quantitative methods, teaching innovation or innovative teaching practices
Presenting Author: Kristiina Räihä, University of Helsinki, Finland; Co-Author:Nina Katajavuori, University of Helsinki, Finland; Co-Author:Henna Asikainen, University of Helsinki, Finland

New ways to support students' well-being in higher education are urgently needed. This paper aimed to study how university students' (N=352) personal resources and well-being change during and after participating in a course aiming to enhance psychological flexibility and organised studying, and what aspects predicted students' study burnout risk at follow-up. The results of a series of ANOVAs showed that students' psychological flexibility, organised studying, and well-being increased, and study burnout risk decreased statistically significantly during the course. Changes were significant compared to the waiting-list control group and maintained at six months follow-up. Multiple regression showed that the increase in psychological flexibility and organised studying predicted lower burnout risk at follow-up. These results indicate that enhancing students' personal resources, such as psychological flexibility and organised studying through an intervention course can reduce students' burnout risk. The data is further studied according to mediating effects and discussed at the conference.

PhD Satisfaction and Mental Health: Impact of Burnout, Engagement, and Work-Life Conflict
Keywords: adaptive learning, adaptive performance, educational development, quantitative methods
Presenting Author: Bilge Gencoglu, University of Groningen, Netherlands; Co-Author:Marjon Fokkens-Bruinsma, University of Groningen, Netherlands

The well-being of PhD students is a critical aspect of their academic journey and overall quality of life. This study, involving 2275 PhD students in the Netherlands, investigates the interrelations between burnout (exhaustion, cynicism, and professional efficacy), work engagement (dedication and vigor), work- life conflict, and their impact on the satisfaction (overall PhD trajectory and supervision) and mental health. The findings reveal that exhaustion and cynicism, and work-life conflict are negatively, and professional efficacy and work engagement are positively related to satisfaction and mental health. Multiple regression analysis further identifies burnout, work engagement, and work-life conflict as consistent predictors of satisfaction and mental health, with vigor specifically related to mental health outcomes. These insights underscore the need for tailored support strategies to enhance the academic and personal well-being of PhD students, fostering a more supportive educational environment.

The added value of longitudinal SNA to investigate burnout in higher education students
Keywords: adaptive learning, educational development, mixed methods, quantitative methods
Presenting Author: Jasperina Brouwer, University of Groningen, Netherlands; Co-Author:Liga Klavina, University of Groningen, Netherlands

This study investigates how study-related worries impact the initiation of contact in help-seeking and the preference for collaboration networks. Analyzing longitudinally collected social network data of international students, we examined the role of study-related worries in the selection of their peers. We showed that students who scored similar on study- related worries, were more likely to seek help from each other or prefer to collaborate. Furthermore, student from the same country were also more likely to connect to each other in both networks. In the paper presentation, we also want to discuss the added value of stochastic actor-oriented modeling in R Siena in examining social selection mechanisms in longitudinally collected peer networks and students' risk for burnout.

Paper Session I 5

25 September 2024 14:00 - 15:30
Room 5.2 La Vie - Meeting Center
Oral Paper Presentation

Higher Education, Learning and Instructional Technology

Paper Presentation Session 5: Assessment and Measurement in Higher Education

Keywords: adaptive learning, adaptive performance, digital learning, educational development, evidence-based teaching, learning analytics, qualitative methods, quantitative methods, research-based teaching, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education, SIG 17 - Methods in Learning Research
Chairperson: Jhotisha Mugon, University of Victoria, Canada

Effective master's thesis supervision – A summative framework for research and practice

Keywords: adaptive learning, educational development, research-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Laurie Delnoij, Maastricht University SBE, Ts 53, Netherlands; Co-Author:Therese Grohnert, Maastricht University, Netherlands; Co- Author:Lena Gromotka, Maastricht University, Netherlands; Co-Author:Inken Gast, Maastricht University, Netherlands; Co-Author:Simon Beausaert, Maastricht University, Netherlands

Annually, an increasing number of students worldwide embark on a master's program to obtain their master's degree. Their master's thesis is an educational milestone, with thesis supervisors playing an essential role. This study addresses the crucial role of thesis supervisors, emphasizing the lack of an evidence- informed overview of effective master's thesis guidance. Through a systematic literature review, we present an input-process-output model based on 36 studies, identifying student and supervisor outcomes, characteristics of an effective student-advisor relationship, and actions to create and maintain it. We also identified student and advisor characteristics as important inputs for an effective supervision process. Insights so far seem focused on supervisor attitudes and actions in the student-supervisor relationship, calling for future exploration of student actions, supervisor learning opportunities over time, and contextual factors. The overview provides recommendations for future research and summarizes effective guidance practices in the dynamic and complex context of thesis supervision.

Predicting Short- and Long-Term achievement in Higher Education: a cross-classified multilevel study

Keywords: adaptive performance, educational development, quantitative methods, teaching innovation or innovative teaching practices
Presenting Author: Vincent Donche, University of Antwerp, Belgium; Co-Author:Jonas Willems, University of Antwerp, Belgium; Co-Author:Jordi Heeren, K.U.Leuven, Belgium; Co-Author:Sofie Van Cauwenberghe, Ghent University, Belgium; Co-Author:Nicolas Dirix, Ghent University, Belgium; Co-Author:Lien Demulder, KU Leuven, Belgium; Co-Author:Karine Verschueren, KU Leuven, Belgium; Co-Author:Lieve De Wachter, K.U.Leuven, Belgium; Co-Author:Veerle Vanoverberghe, Artevelde University College Ghent, Belgium

Global concerns about low success rates in higher education (HE) have led to extensive research identifying key background, cognitive, and non-cognitive variables affecting academic achievement. However, this research has overlooked the multi-level nature of data encompassing both secondary education (SE) and HE programmes, typically only focuses on entry-level predictors, and seldom addresses long-term HE achievement. This study investigates the influence of students' background, cognitive (mathematical skills, non-verbal reasoning, and general vocabulary knowledge), and non-cognitive (motivation, learning strategies, self-perceptions) variables, measured at the end of SE. These factors are analyzed for their impact on short-term (one year) and long-term (three years) academic performance in HE, considering the educational programmes of both SE and HE. Employing cross-classified multilevel models, including a random interaction term between SE and HE levels, the study utilizes a comprehensive dataset from Flanders (N=19,048) to explore these relationships. The findings and directions for future research will be discussed.

Role of personalization, valence, and implementation of data-driven feedback in learning engagement

Keywords: digital learning, learning analytics, quantitative methods, teaching innovation or innovative teaching practices
Presenting Author: Marc Winter, Goethe-University Frankfurt, Institute of Psychology, Germany; Co-Author:Julia Mendzheritskaya, Goethe-Universität Frankfurt, Germany; Co-Author:Holger Horz, Goethe-University Frankfurt, Institute of Psychology, Germany; Co-Author:Julia Mordel, Goethe-University Frankfurt, Germany

Automated individualised feedback in asynchronous online courses is considered as an important factor supporting students' learning engagement [8]. It is emphasised that feedback valence as well as its immediate implementation have an impact on students' perception and adoption of feedback [2]. Our study aims to analyse the effect of indicator-based feedback on learning engagement dependent on its 1) personalization, 2) valence, and 3) implementation options. The participants were student teachers (N=180) who received personalised vs. non-personalised feedback on learning engagement via Learning Analytics dashboards five times during an asynchronous online course. The results showed significant effects of feedback personalisation and feedback valence on directly implementable learning behaviour, especially, linked to the facets of effort and interest of learning engagement. The results are of high relevance for designing university courses with individualised automated feedback.

Measuring Learning Gain in Higher Education: A Qualitative Instrument

Keywords: educational development, evidence-based teaching, qualitative methods, transformative learning
Presenting Author: Anna Huvos, Tilburg University, Netherlands

This presentation aims to introduce a new technique to gain a deeper understanding into students' learning gain at university. Traditionally outcome-focused higher education tends to overlook how students are shaped and develop as a person, an academic, and a citizen during their undergraduate degree and until now a comprehensive instrument to assess learning gain has not been developed. I propose that narrative interviewing can give insight for practitioners and researchers into students' conceptualisation of their learning gain. Results indicate that narratives students are prompted to tell give a better understanding of their concept of learning gain. Thus, this interview can serve as an instrument for educators to explore development in learning. Moreover, students' reflection on changes not only in their knowledge, skills, but also in their character is valuable for educators to teach and understand the students better. This understanding can inform educational practices, methods, and policies alike.

Collaborative Spaces / / JURE Workshop I 1 - For a detailed description of the JURE workshops see page 30

25 September 2024 16:00 - 17:45
Room 5.1 La Vie - Meeting Center
Collaborative Space
Higher Education

Collaborative Space - Session 1

Keywords: adaptive learning, educational development, mixed methods, teaching innovation or innovative teaching practices
Interest group: SIG 04 - Higher Education

Interdisciplinary research questions in Higher Education

Keywords: adaptive learning, educational development, mixed methods, teaching innovation or innovative teaching practices
Presenting Author: Rianne van Lambalgen, Utrecht University, Netherlands; Co-Author:Marije van Braak, Utrecht University, Netherlands; Co- Author:Christianne Smit, Utrecht University, Netherlands; Co-Author:Imar de Vries, Utrecht University, Netherlands; Co-Author:Ingrid Hoofd, Utrecht University, Netherlands; Co-Author:Vincent Crone, Utrecht University, Netherlands

Most higher education research can be characterized by a positivist approach that focuses on measuring and optimizing educational outcomes and practices. However, this may neglect questions about the purpose and value of higher education, its normative and ethical aspects, or its multifaceted contexts. In this collaborative space, we aim to discuss how humanities perspectives can broaden the field of higher education research by exploring interdisciplinary ways of understanding and interpreting human experiences in education. We would like to use this space to develop interdisciplinary research questions combining a humanities and an educational sciences perspective to foster dialogical and reflective educational inquiry. We invite any researchers involved with research in

higher education.

Collaborative Spaces / / JURE Workshop I 2

25 September 2024 16:00 - 17:45
Room 5.3 La Vie - Meeting Center
Collaborative Space

Collaborative Space - Session 2

Keywords: learning analytics, mixed methods, qualitative methods, quantitative methods
Interest group:

Methodological challenges in the adoption and scaling up of LA
Keywords: learning analytics, mixed methods, qualitative methods, quantitative methods
Presenting Author: Anouschka van Leeuwen, Utrecht University, Netherlands; **Presenting Author:**Rianne Conijn, Eindhoven University of Technology, Netherlands; Co-Author:Ludo van Meeuwen, Eindhoven University of Technology, Netherlands; Co-Author:Marcus Specht, TU Delft, Netherlands; Co- Author:Kim Schildkamp, University of Twente, Netherlands; Co-Author:Priyanka Pereira, University of Twente, Netherlands

Many educational institutions recognize that data offer the opportunity to gain insights into and improve teaching and learning processes, and have initiated efforts to implement learning analytics (LA). LA is a complex endeavor that requires developments in the areas of pedagogy, ethics, privacy, technology, and organizational culture. It is a broad research field that encompasses methodological challenges on multiple levels. The aim of this session is to discuss the methodological challenges involved in the implementation and scaling up of LA. The organizers posit two challenges: (1) employing advanced statistical techniques and (2) mapping organizational processes related to LA, and welcome additional input from participants. The outcome of the session is aimed at establishing and strengthening research collaborations around this topic. To start the discussion, participants are asked to present themselves and their interest in LA in a one-minute presentation at the start of the session.

Collaborative Spaces / / JURE Workshop I 3

25 September 2024 16:00 - 17:45
Room 4.7 / 4.8 La Vie - Meeting Center
Collaborative Space
Higher Education

Collaborative Space - Session 3

Keywords: AI in higher education, digital learning, educational development, mixed methods
Interest group: SIG 04 - Higher Education

Assessing critical thinking in higher education: Comparing AI and university students' responses
Keywords: AI in higher education, digital learning, educational development, mixed methods
Presenting Author: Anna Trikoili, Technical University of Munich, Germany; **Presenting Author:**Christina Ioanna Pappa, Technische Universität München (TUM), Germany; Co-Author:Despoina Georgiou, Utrecht University, Netherlands; Co-Author:Daniel Pittich, Technische Universität München (TUM), Germany

This proposal delves into the assessment of critical thinking in higher education, emphasizing its importance in individuals' lives, work, and learning experiences. Assessing critical thinking is challenging and controversial, especially after integrating digital technology and artificial intelligence (AI) in education. AI advancements blur the line between human and machine-generated output. Nevertheless, evidence suggests that specific skills, notably critical thinking, remain beyond AI chatbots' capabilities. Our collaborative space proposal explores the assessment and testing of critical thinking in the era of ChatGPT, presenting initial data on its outperformance compared to higher education students. This proposal raises questions about the validity of assessment tools in the face of AI advancements, emphasizing the need for proactive discussions and adaptations.

Collaborative Spaces / / JURE Workshop I 4

25 September 2024 16:00 - 17:45
Room 4.9 La Vie - Meeting Center
Collaborative Space
Higher Education

Collaborative Space - Session 4

Keywords: challenge-based learning, digital learning, evidence-based teaching, teaching innovation or innovative teaching practices
Interest group: SIG 04 - Higher Education

Co-Designing an Evidence-Based Practice Online Escape Game: Enhancing Learning in Higher Education
Keywords: challenge-based learning, digital learning, evidence-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Carla Quesada-Pallarès, Universitat Autònoma de Barcelona, Spain; Co-Author:Paloma Valdivia, Autonomous University of Barcelona, Spain; Co-Author:Paulina E. Robalino Guerra, PAFIU Research Group, Spain; Co-Author:Helena Roig-Ester, ESCOLA UNIVERSITARIA INFERMERIA I TERÀPIA OCUPACIONAL TERRASSA (EUIT), Spain; Co-Author:Anna Ciraso, Universitat Autònoma de Barcelona, Spain; Co-Author:Núria Codern Bové, EUIT, Spain; Co-Author:Mariona Portell, Autonomous University of Barcelona, Spain; Co-Author:Malgorzata Stefaniak, Warszawskiego Uniwersytetu Medycznego, Poland; Co-Author:Carmen Queirós, Cooperativa de Ensino Superior Politécnicno e Universitário, Portugal

This paper aims to explain how to develop an interdisciplinary online escape game within a university setting to facilitate evidence-based practice (EBP) among healthcare students, within the funded project "2023-1-BE02-KA220-HED-000159585 EBP EscapeGame". It deviates from traditional teaching methods by utilising technology to create dynamic learning experiences, promoting skills development and collaboration, crucial for healthcare professionals. The proposal focuses on EBP competence, emphasising problem-solving skills and the integration of research evidence. Research highlights the educational value of escape room activities. The co-design process involves six phases: 1) engage and align, 2) explore and connect, 3) imagine and decide, 4) create and test, 5) co- implement and co-evaluate, and 6) share and celebrate. The game development phase includes creating character profiles, puzzles, and narrative elements. The discussion will be used to analyse the strengths and weaknesses of the co-design process and other possible ways of conducting it.

Collaborative Spaces / / JURE Workshop I 5

25 September 2024 16:00 - 17:45
Room 5.2 La Vie - Meeting Center
Collaborative Space
Higher Education

Collaborative Space - Session 5

Keywords: challenge-based learning, mixed methods, quantitative methods, teaching innovation or innovative teaching practices

Interest group: SIG 04 - Higher Education

How to support students in their transition to teacher education
Keywords: challenge-based learning, mixed methods, quantitative methods, teaching innovation or innovative teaching practices
Presenting Author: Edith Braun, Justus-Liebig-University Giessen, Germany

Students' transition to higher education has long been recognised as a crucial phase which determines students' social and academic integration. This is particularly the case for students in initial teacher education. However, research with this particular target group is scarce. With this collaborative space, we would like to address this research gap by discussing with fellow researchers the specific challenges of teacher education students and potential methods that can support these students. Building both on research regarding students' transition processes and regarding innovative teaching and learning methods such as simulations, we want to design a research program to further investigate the transition processes in the first year of teacher education.

26 September 2024 09:00 - 10:15

Keynote - Prof. Dr. Mari Murtonen
La Vie Meeting Center – 5.7/5.9

Embracing evidence-based understanding: learning and teaching of research in higher education

Keywords: educational development, evidence-based teaching, research-based teaching, transformative learning
Interest group: SIG 17 - Methods in Learning Research
Chairperson: Carla Quesada-Pallarès, Universitat Autonoma de Barcelona, Spain

Presenting Author: Mari Murtonen, University of Turku, Finland

One of the most crucial skills in today's world is the ability to use evidence-based knowledge to solve the wicked problems of society. Higher education graduates should possess the ability to comprehend research and contribute to the advancement of society using research-based knowledge, fostering a better future. However, both learning and teaching of research have proven to be challenging tasks. In this keynote, I introduce the audience to the challenges students face when learning research and the pedagogical questions associated with teaching it. I also present a comprehensive model to understand the components involved in the development of research-related understanding.The challenges students face in research learning are diverse. Research methods, methodologies, principles and traditions have evolved over a very long time. They often encompass abstracted theories and rules, complex concepts, and procedural instructions, incorporating methods from other academic domains, such as statistics and academic writing. Applying evidence-based information to solve problems requires inferencing skills, while accepting uncertainty requires epistemic maturity. All these factors contribute to creating a complicated field for students to learn. As Epstein noted back in 1987, "No other part of the social work curriculum has been so consistently received by students with as much groaning, moaning, eye-rolling, hyperventilation, and waiver strategizing as the research course". The challenges in research learning appear to be similar and widespread across various disciplines. Although many pedagogical innovations have been implemented, the results have not always been as successful as expected.Our team has studied the questions of research learning and teaching for a long time, resulting in a model that aims to explicate these phenomena
within the broader context of scientific thinking. By scientific thinking, we refer to processes in common not only to natural sciences but to all university disciplines aspiring to rigorous knowledge-seeking processes. We envision our model assisting universities and teachers in planning curricula and teaching that elucidate the desired learning goals more comprehensively for both themselves and their students, and helps students to understand the big picture of research as a tool for understanding the world.

Paper Session II 1

26 September 2024 10:45 - 12:15
Room 5.2 La Vie - Meeting Center
Oral Paper Presentation
Higher Education

Paper Presentation Session 6: Students' Social Integration and Professional Development

Keywords: adaptive expertise, adaptive performance, challenge-based learning, digital learning, educational development, learning analytics, qualitative methods, quantitative methods, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education, SIG 17 - Methods in Learning Research
Chairperson: Judit Martínez Moreno, Switzerland

The Relationship Between the Study Choice Process and Academic Success in the Transition to HE
Keywords: digital learning, educational development, learning analytics, quantitative methods
Presenting Author: Vincent Donche, University of Antwerp, Belgium; Co-Author:Lien Demulder, KU Leuven, Belgium; Co-Author:Karine Verschueren, KU Leuven, Belgium

This longitudinal study investigated how career exploration profiles (i.e., highly active, moderately active, passive explorers) relate with acquired information about higher education (HE) and study choice commitment in the final year of secondary education, and how these intervening factors, in turn, predict academic success in the first year of HE ($n = 5,358$). SEM revealed that the exploration profiles significantly predicted the amount of information and commitment. Amount of information had a positive direct effect on academic success. A significant indirect effect of the exploration profiles on academic success through amount of information was also observed. These effects were observed controlling for background characteristics. Multiple-group SEM analysis revealed no differences in the structural paths between academic and professional bachelor programs, indicating the model's generalizability across programs. This study provides valuable insights into how success in HE can be fostered by promoting students' career exploration, thereby supporting information acquisition about HE.

Collaboration activities in pedagogical development programmes. What do teachers learn from this?

Keywords: challenge-based learning, educational development, qualitative methods, teaching innovation or innovative teaching practices

Presenting Author: Marloes Vreekamp, Wageningen University and Research Centre, Netherlands; Co-Author:Piety Runhaar, Wageningen University and Research, Netherlands; Co-Author:Judith Gulikers, Wageningen University and Research, Netherlands; Co-Author:Perry den Brok, Wageningen University and Research, Netherlands

Since 2008, Dutch universities have implemented the University Teaching Qualification (UTQ). The UTQ is a pedagogical development programme meant to enhance the quality of university education. Collaboration among teachers is considered important within the UTQ. Collaborating with other participants involves various activities varying in degree of interdependence during collaboration (Little, 1990). This survey study investigates which collaboration activities are experienced by teachers, what learning outcomes teachers report, and the relationship between collaboration activities and learning outcomes. The results indicate that collaboration activities characterized by high interdependence (co-creation) are less frequently experienced than those with low interdependence (sharing). Furthermore, it is found that the more frequently teachers collaborate, the more learning outcomes are reported by teachers. Moreover, collaboration activities with low interdependence stimulate learning outcomes in the personal domain (i.e., knowledge, vision) and teaching practice. These findings can be utilized to further shape collaboration activities within pedagogical development programmes.

STEM Undergraduate Students' Social Integration and Its Impact on Students' Academic Achievement

Keywords: adaptive performance, educational development, learning analytics, quantitative methods

Presenting Author: Siyu Jiang, ETH Zurich, Switzerland; Co-Author:Christoph Stadtfeld, ETH Zurich, Switzerland

Higher education provides students with a dynamic and autonomous social environment in which they can initiate social and academic contact with peers of diverse backgrounds and learning interests. As an essential social and academic capital in higher education, multiplex social relationships may affect undergraduate students' academic success. This study aims to investigate the dynamic development of STEM undergraduate students' multiplex relationships and their influence on students' academic achievement in the first academic year. Through a longitudinal network design, we examine how two STEM study cohorts' friendship and co-studying networks develop and subsequently, the impact of students' social integration on their first-year academic grades at a Swiss university. Our preliminary analysis shows a strong tendency for friendship and co-studying networks to co-evolve among first-year STEM undergraduate students. Analyses with regard to the association between social integration and academic achievement are currently conducted building upon a pre-registered model specification.

Learning to teach in higher education : A portrait of Canadian early-career teachers

Keywords: adaptive expertise, educational development, qualitative methods, transformative learning

Presenting Author: Marilou Bélisle, Université de Sherbrooke, Canada; **Presenting Author:**Tanya Chichekian, Université de Sherbrooke, Canada

The mission of universities revolves around research, teaching, and community service. Although teaching constitutes a central pillar, it often remains the "poor relative" compared to research, which enjoys significant recognition, particularly in terms of institutional influence and professional acknowledgment. While research on the professional development (PD) of university teachers is increasingly abundant elsewhere in the world, such research in Canada is scarce. From this perspective, this research aimed at documenting the pathways of pedagogical development to better understanding the professionalization process of university teachers. Semi-structured interviews with 82 Canadian university teachers at different levels in their career unveil how they learn to teach, who they are as teachers and how they relate to their institutional teaching culture. While this communication focuses on early-career teachers, results will be contrasted with mid- and advanced-career teachers, discussed in light of recent empirical studies on PD, and explained by facilitators and barriers to PD.

Paper Session II 2

26 September 2024 10:45 - 12:15
Room 5.3 La Vie - Meeting Center
Oral Paper Presentation
Higher Education

Paper Presentation Session 7: Sustainability in Higher Education

Keywords: digital learning, educational development, evidence-based teaching, mixed methods, qualitative methods, quantitative methods, sustainability, teaching innovation or innovative teaching practices, transformative learning

Interest group: SIG 04 - Higher Education, SIG 17 - Methods in Learning Research

Chairperson: Carla Oonk, Wageningen University, Netherlands

Complexities in assessing intellectual, personal, & civic learning gain with a mixed-method approach

Keywords: educational development, mixed methods, qualitative methods, quantitative methods **Presenting**

Author: Trinh Nguyen, Tilburg University, Netherlands

Learning in higher education is a holistic and multidimensional development, encompassing not only cognitive performance but also intellectual, personal, and civic (IPC) learning gain. Since university students' IPC growth has received limited attention (Deresiewic, 2014; Brooks, 2015), there has not yet been a data-driven quantitative tool to assess IPC learning gain in Dutch higher education. This contribution shows how we constructed a large-scale longitudinal questionnaire which was grounded in students' interview data where they conceptualise their IPC development across different stages of study. Using a mixed-method grounded theory approach, we selected exemplary interview segments that reflected key aspects of IPC learning gain to form questionnaire items.

Although this approach is innovative and evidence-based, it also introduced challenges. As a methodological paper, this contribution discusses the added value of transforming qualitative data into quantitative survey items, as well as how the research team navigates the intricacies of this mixed-method approach.

Supporting students' personal growth: Evaluating an intervention on writing about life goals

Keywords: digital learning, educational development, quantitative methods, teaching innovation or innovative teaching practices

Presenting Author: Lena Sofie Kegel, University of Münster, Germany; Co-Author:Jan Knauer, University of Münster, Germany; Co-Author:Pascal Rickert, University of Münster, Germany; Co-Author:Carola Grunschel, University of Muenster, Germany

Writing about life goals can promote students' health, general well-being, and goal pursuit. We conducted two experimental studies with randomized control group designs to replicate effects from past research and to examine whether a writing intervention also had positive effects on higher education-specific outcomes (i.e. study satisfaction, career adaptability). The digital intervention of overall four hours consisted of explanatory videos and writing tasks concerning life goals. Using repeated measures ANOVAs, we did not replicate the expected effects for psychological well-being, optimism, and self-efficacy. However, in Study 1 ($N = 100$), study satisfaction, and in Study 2 ($N = 114$), career adaptability increased for the intervention group at the posttest. The lack of replicating well known positive effects may be due to the small sample from only one study program. The positive effects for higher education-specific outcomes underline that writing about one's life goals can support students' personal growth.

Confession of a Learning Educator: Autoethnographic Analysis of Myths about Sustainability Education

Keywords: educational development, evidence-based teaching, qualitative methods, sustainability

Presenting Author: Stefan T. Siegel, University of St.Gallen, Switzerland

This paper explores the challenges and misconceptions faced by an early sustainability educator. Articulating my positionality and using an analytic approach, I autoethnographically (Anteliz et al., 2023) reflect on my personal journey in better understanding the field and phenomenon of myths in and about sustainability education (MYTHSE). Based on relevant literature in the fields of learning and instruction in higher education (e.g., Brookfield, 2017), educational-psychological myths (e.g., de Bruyckere et al., 2020), and sustainability education (e.g., Jones et al., 2010), I discuss my initial (questionable) beliefs. Based on qualitative

content analysis, I will present an innovative theory and evidence-informed classification of these misconceptions relating them to key elements of teaching and learning in higher education (e.g., Biggs, 2014). Confessions (Mazur, 2009) about our misconceptions point to our fallibility, the ability to recognize and address our misunderstandings. Accordingly, in my talk, I will encourage the audience to adopt a similar stance.

How do students learn to act sustainably? Integrating design thinking into sustainability education

Keywords: educational development, qualitative methods, sustainability, transformative learning

Presenting Author:Nina Bohm, University of Utrecht, Netherlands; Co-Author:Karin Rebel, Utrecht University, Netherlands

Global warming is reshaping higher education. Educators must not only teach an understanding of sustainability but also develop students' competencies to be able to act when faced with complex challenges. This requires teaching design practices in sustainability courses. However, the integration of design into sustainability education remains understudied. This research examines how design thinking is currently incorporated into the intended curriculum of sustainability courses. We analyzed 87 courses taught at the Copernicus Institute for Sustainable Development, using eight well-established sustainability competencies and three prevalent design thinking models. While final results are pending, we anticipate varying levels of integration. Particularly, the integrated problem-solving competency and design thinking are strongly related. Enhancing the explicit inclusion of design practices in sustainability education can enrich teaching and empower students and educators to contribute meaningfully to sustainability.

Paper Session II 3

26 September 2024 10:45 - 12:15
Room 5.7/ 5.8 La Vie - Meeting Center
Oral Paper Presentation
Higher Education, Teaching and Teacher Education

Paper Presentation Session 8: Learning, Professional Development and Teacher Education

Keywords: adaptive expertise, educational development, evidence-based teaching, learning analytics, mixed methods, quantitative methods, research-based teaching, sustainability
Interest group: SIG 04 - Higher Education, SIG 17 - Methods in Learning Research
Chairperson: Tine Nielsen, Denmark

Epistemic network analysis for (preservice) teacher professional vision research

Keywords: educational development, learning analytics, mixed methods, research-based teaching

Presenting Author:Meg Farrell, Technische Universität München, Germany; Co-Author:Elisabeth Bauer, Technische Universität München (TUM), Germany; Co-Author:Tina Seidel, Technische Universität München, Germany

Research on preservice teachers' professional vision (i.e., noticing and reasoning about important teaching and learning events to inform teaching decisions) has demonstrated that initial development of these skills is already possible in teacher education. This research often involves interventions involving preservice teachers' analysis of teaching examples, and implements a content analysis methodology to uncover and report frequencies of professional vision aspects from their qualitative responses. New to this field, epistemic network analysis (ENA) is beginning to be used to further explore the interconnected nature of (preservice) teachers' professional vision from a mixed-methods perspective. In this conceptual proposal, we clarify the theoretical and methodological compatibility of ENA for the field of (preservice) teacher professional vision research. Then considering these compatibilities, we further propose several benefits that ENA offers to the field of professional vision research, and finally we provide some suggestions for future directions.

Patterns of interaction between teaching conceptions and teaching approaches in higher education

Keywords: educational development, evidence-based teaching, quantitative methods, sustainability

Presenting Author:Velibor Mladenovici, West University of Timisoara, Romania; Co-Author:Crina Damsa, University of Oslo, Norway; Co-Author:Marian Ilie, West University of Timisoara, Romania

Teachers' approaches and conceptions are shown to be relevant for the quality of inclusive, student-centered teaching and student-learning outcomes. Therefore, it is essential to understand the multidirectional nature and ties between academics' conceptions of teaching (ACTs) and their teaching approaches (ATAs). Traditionally, studies are based on small samples and estimate items' shared variance, defining either a cognitive or behavioral pattern (via the latent factor approach). This study employed a novel perspective (network analysis) to scrutinize the associations between ACTs and ATAs. It used the Conceptions of Teaching and Learning and the Revised-Approaches to Teaching Inventory to collect data from a convenience sample of 756 in-service academics (61.64% female) from 28 universities. The results highlight two different teaching mechanisms: the persistent learning- and content-centered teaching dichotomy within higher education practices. Also, the scientific content of the subject matter resulted as the main binder between complementary learning- or content-centered ACTs and ATAs.

Empirical findings on meta-reflexivity in teacher education

Keywords: adaptive expertise, evidence-based teaching, quantitative methods, research-based teaching

Presenting Author:Andreas Schmidt, University of Tuebingen, Germany; Co-Author:Colin Cramer, University of Tuebingen, Institute of Education, Germany

Meta-reflexivity and its ten principles were introduced into academic discourse as a new approach to teacher professionalism. Integrating a theoretical framework that emphasises critical and constructive analysis from multiple perspectives, we examine the relationship between pre-service teachers' attributions of the importance of meta-reflexive principles for their professionalisation with various concepts. Using data from surveys conducted across universities in Austria, Germany, and Switzerland and analysed through structural equation modeling, we aim to uncover the role of meta-reflexivity in teacher education. This research contributes to understanding how incorporating multi-perspective awareness in teacher education can enhance teacher professionalism and provide appropriate answers to current challenges in higher education.

Paper Session II 4

26 September 2024 10:45 - 12:15
Room 4.7 / 4.8 La Vie - Meeting Center
Oral Paper Presentation
Higher Education

Paper Presentation Session 9: Teaching Quality and Student Perception

Keywords: educational development, evidence-based teaching, mixed methods, quantitative methods, research-based teaching, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education
Chairperson: Jürgen Schneider, Germany

German and Spanish versions of the HEAT Questionnaire on HE teachers' approaches to teaching

Keywords: educational development, mixed methods, quantitative methods, teaching innovation or innovative teaching practices

Presenting Author:Miriam Hansen, Goethe-Universität Frankfurt, Germany; Co-Author:Julia Mendzheritskaya, Goethe-Universität Frankfurt, Germany; Co- Author:Irene Corvacho del Toro, University of Siegen, Germany

German and Spanish versions of the HEAT questionnaire were validated in a study with 102 university lecturers in Germany and Colombia, respectively. For the German version, factor analyses confirmed the four-factor structure of the questionnaire with good reliability scores and

plausible differences in the teaching approaches dependent on discipline groups were identified. However, only three factors were found for the Spanish version: In addition to the unreflective and the transmissive approaches, there was a factor with items of the interactive and the organized approaches. In addition, extreme response bias and high positive response tendencies were revealed in the Colombian sample. The German version of the HEAT can be used in its present form for future research on university teaching. As there is no equivalence to the previous versions for the present Spanish version, cognitive interviews have been conducted in order to explore the possible cultural differences in item understanding.

Assessing Teaching Practices During Lectures: Psychometric analysis of three measurement tools
Keywords: evidence-based teaching, quantitative methods, research-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Mikaël De Clercq, Université catholique de Louvain (UCL); Académie de Recherche et de l'Enseignement Supérieur (ARES), Belgium; Co- Author:Amelie Duguet, Université de Bourgogne, France

Improving teaching practices (TP) has become an ongoing concern in Higher Education. Yet, despite a vast body of research on instructional designs, the specific aspects of TP are still overlooked. Valid instruments to depict TP are also limited which hindered our understanding of their roles on student's adjustment and success.
In order to overcome those limitations, this presentation analyses the psychometric validity of three complementary tools to measure TP in Higher Education (observation, self-reported and student-reported tool). Data were carried out 1.250 bachelor students from 39 different lectures. The analyses (EFA and CFA) consistently identified three main dimensions of TP namely: emotional, instructional and autonomy support. The reliability of the scales was good to excellent. Multilevel analyses reported substantive links with students' interest, well-being and participation.
The presentation will discuss the practical implications of those tools to improve TP and future perspectives of research.

Students' evaluations of teaching in higher education: The perspective of network analysis
Keywords: educational development, evidence-based teaching, quantitative methods, transformative learning
Presenting Author: Ilinca Sas, West University of Timisoara, Romania; Co-Author:Diana Potra, West University of Timisoara, Romania; Co-Author:Velibor Mladenovici, West University of Timisoara, Romania; Co-Author:Marian Ilie, West University of Timisoara, Romania

Student evaluations of teaching (SETs) have been studied for over 100 years, but many questions remain (e.g., SETs reliability or how SETs could enhance teaching). Most existing literature investigated SETs by latent factors that grasp their shared variance (i.e., the latent factor approach). Using network analysis, we investigated the interaction between the 49 Exemplary Teacher Course Questionnaire (ETCQ) items. We used ETCQ to collect responses from 3149 students (70% female) from four Romanian universities. In terms of centrality indices (i.e., strength, betweenness, and closeness) teachers' high expectations – teacher-student interaction – stimulating study interest ratio is central to students' perceptions of the teaching quality network. This network is stable regardless of students' gender and specific of the discipline. These results could be the basis of more specific interventions for helping academics become more student- centered. We further advanced several methodological suggestions and potential actions for future studies.

A cross-lagged panel analysis between students' perception of teaching quality and their learning
Keywords: educational development, evidence-based teaching, quantitative methods, transformative learning
Presenting Author: Iasmina Miruna Petcu, West University of Timisoara, Romania; Co-Author:Marian Ilie, West University of Timisoara, Romania; Co- Author:Velibor Mladenovici, West University of Timisoara, Romania; Co-Author:Mădălin Bunoiu, West University of Timisoara, Romania; Co-Author:Paula Ioana Cazan, West University of Timisoara, Romania; Co-Author:Claudiu Bunăiașu, University of Craiova, Romania; Co-Author:Ciprian Ceobanu, Alexandru Ioan Cuza University of Iasi, Romania; Co-Author:Constantin Cucoș, Alexandru Ioan Cuza University of Iasi, Romania; Co-Author:Teodora Chicioreanu, Polytechnic University of Bucharest, Romania, Romania; Co-Author:Daniela Dumitru, Academy of Economic Studies of Bucharest, Romania; Co- Author:Mihaela Modoran, Ovidius University, Constanţa, Romania; Co-Author:Adrian Opre, Babeş-Bolyai University, Cluj-Napoca, Romania; Co- Author:Cristian Petre, "Ovidius" University, Constanţa, Romania; Co-Author:Grigore Piroşca, Academy of Economic Studies of Bucharest, Romania; Co- Author:Anna Soós, "Babeş-Bolyai" University, Cluj-Napoca, Romania; Co-Author:Nicu Panea, University of Craiova, Romania, Romania; Co-Author:Ovidiu Pânișoară, University of Bucharest, Romania, Romania

The present study aims to explore the relationship between students' perception of the quality of teaching activity in the study programs and their learning approaches. We proposed a longitudinal design using the autoregressive cross-lagged panel model to analyze the data from two waves. Data was collected from 384 student teachers (35.94% male, mean age = 24.05) at eight Romanian universities using The Exemplary Teacher Course Questionnaire and The Revised Two-Factor Study Process Questionnaire. The results showed that the more student teachers engage in deep learning, the more positively they rate the educational process in terms of understanding fundamental concepts, challenging beliefs, stimulating active learning or the assessment method. Also, by a deeper learning approach lead students to be more critical to the relevance of their teacher's teaching.

Paper Session II 5

26 September 2024 10:45 - 12:15
Room 5.1 La Vie - Meeting Center
Oral Paper Presentation
Educational Policy and Systems, Higher Education, Teaching and Teacher Education

Paper Presentation Session 10: Transforming Learning Experiences in Higher Education

Keywords: adaptive learning, educational development, evidence-based teaching, learning analytics, mixed methods, qualitative methods, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education, SIG 12 - Writing
Chairperson: Mònica Feixas, Zurich University of Teacher Education, Switzerland

A university-wide analysis of Activating Blended Education
Keywords: educational development, learning analytics, mixed methods, teaching innovation or innovative teaching practices
Presenting Author: Ralf van Griethuijsen, Vrije Universiteit Amsterdam, Netherlands; Co-Author:Martijn Meeter, Vrije Universiteit Amsterdam, Netherlands; Co- Author:Maiza Campos Ponce, Vrije Universiteit Amsterdam, Netherlands; Co-Author:Silvester Draaijer, Vrije Universiteit Amsterdam, Unknown

Activating Blended Education (ABE) is an educational innovation in which instruction takes place in person as well as online and in which student have to actively engage with the teaching materials through interaction and assignments. The Vrije Universiteit Amsterdam (VU) adopted ABE as one of the design principles for its education in 2021. With a newly developed measuring instrument, over 150 courses were analysed to determine whether education at the VU has truly become more blended and more activating. The analysed courses were to a great degree activating but to a far smaller degree blended. In 2019-2020, all instruction took place on campus. While during the Covid-19 pandemic all instruction had moved online, only a small number of courses had retained online activities in 2022-2023. However, apart from a small minority, all courses had numerous assignments and meetings that are activating in nature.

Integrating Language and Content in Higher Education: A Scoping Review
Keywords: educational development, evidence-based teaching, mixed methods, teaching innovation or innovative teaching practices
Presenting Author: Mariska Okkinga, Rotterdam University of Applied Sciences, Netherlands; Co-Author:Marlon Ruwette, Rotterdam University of Applied Sciences, Netherlands; Co-Author:Kirsten van den Heuij, Rotterdam University of Applied Sciences, Netherlands; Co-Author:Jacqueline van Kruiningen, Rotterdam University of Applied Sciences, Netherlands

Language skills in higher education are vital for fostering academic success and professional readiness. However, expertise in educational teams to sustainably integrate the didactics of content-based language teaching is often lacking. This presentation provides the results of a scoping review of the research literature

on language and content-integrated approaches in higher education. A total of 66 studies were included in the review, of which a minority employed a (quasi-)experimental design. Most interventions were initiated by language teachers, and not content teachers. This raises questions about promoting collaboration between language and content instructors to enhance emphasis on both language and content acquisition, in research as well as in educational practices.

New curricula: Lecturers' coaching experiences as a starting point for curriculum development

Keywords: adaptive learning, qualitative methods, teaching innovation or innovative teaching practices, transformative learning

Presenting Author: Christine Bieri Buschor, Zurich University of Teacher Education, Switzerland; Co-Author:Beatrice Bürgler, Zurich University of Teacher Education, Switzerland; Co-Author:Philipp Hirsch, University of Applied Sciences and Arts Northwestern Switzerland PH (FHNW), Switzerland; Co- Author:Carsten Quesel, University of Applied Sciences North-Western Switzerland, Switzerland

The demand for 'new curricula' in higher education refers to innovative and flexible learning settings. The aim of our study is to investigate lecturers' experiences while implementing coaching in different study programmes at two universities of teacher education. We focus on their learning experiences 1) while supporting teachers' training transfer with the help of online coaching and 2) during a curriculum development process focusing on the connection between courses and coaching to support second career teachers' learning pathways in a work-integrated study programme. We used interviews, including visualisation, and analysed the data with different qualitative methods. Results show that coaches went through a transformative learning process while critically reflecting on roles and hybrid forms of coaching. Different coaching patterns were found that shaped the coaching pathways. The visualisation of the curriculum seems to be a suitable boundary object for reflection and support for further curriculum development.

Innovating education through an educational excellence scheme: encountering dilemmas of wider impact

Keywords: educational development, evidence-based teaching, qualitative methods, teaching innovation or innovative teaching practices

Presenting Author: Aslaug Louise Slette, NIFU - Nordic Institute for Studies of innovation, research and education, Norway; Co-Author:Tea Dyred Pedersen, NIFU - Nordic Institute for Studies of innovation, research and education, Norway; Co-Author:Fride Flobakk-Sitter, NIFU - Nordic Institute for Studies of innovation, research and education, Norway

While the strive for 'excellence' is seldomly questioned within the field of research, excellence initiatives within education are sometimes contested, for example when it comes to impact. Educational excellence initiatives may aim at creating arenas for sharing knowledge and innovative pedagogical practices, thus encouraging higher education institutions to embrace innovation and evidence. In Norway, an example of 'excellence' being used as a means for supporting such change is the "Centres for excellence in education" scheme. We explore what kinds of pedagogical innovations that has been developed in the context of this scheme. Furthermore, by approaching the scheme as a 'boundary object' and the centres as 'epistemic communities', we discuss dilemmas of situated pedagogical innovations, which are also expected to have impact on the wider higher education sector. We draw on document analysis and qualitative interviews with a total of 73 key actors from 13 centres that have been awarded funding.

Poster Session II 1

26 September 2024 12:15 - 13:15
Room 5.7 / 5.8 La Vie - Meeting
Center Guided Poster Presentation
Higher Education, Learning and Instructional Technology, Motivational, Social and Affective Processes

Poster Presentation Session 5: Well-Being and Mental Health

Keywords: adaptive expertise, adaptive learning, digital learning, educational development, evidence-based teaching, learning analytics, mixed methods, qualitative methods, quantitative methods, research-based teaching, teaching innovation or innovative teaching practices, transformative learning   Interest group: SIG 04 -
Higher Education, SIG 27 - Online Measures of Learning Processes
Chairperson: Judith Schoonenboom, University of Vienna, Austria

Enhancing university personnel's well-being and work skills: Examining an online ACT intervention

Keywords: digital learning, educational development, mixed methods, research-based teaching

Presenting Author: Viktoria Balla, University of Helsinki, Finland; Co-Author:Veera Lampinen, University of Helsinki, Finland; Co-Author:Nina Katajavuori, University of Helsinki, Finland; Co-Author:Henna Asikainen, University of Helsinki, Finland

Our study examines the impact of a 12-week ACT-based online intervention course on university personnel's psychological flexibility (PF), mental well-being as well as procrastination and organized work skills. We aimed to investigate the effects of the intervention on participants' PF and explore what factors contribute to a potentially larger benefit. Additionally, we explored the relationship between well-being and work skills pre- and post-intervention. Our preliminary results based on responses from 33 participants indicate a significant improvement in PF following the intervention, with a positive change in PF associated with improved mental well-being. PF enhancement was higher among those experiencing more stress prior to the intervention. Furthermore, higher post-intervention PF was positively associated with better organized work skills. These findings underscore the potential of online ACT interventions to enhance well-being and work skills among academic personnel. Data collection is ongoing, results of an in-depth analysis will be presented at the conference.

How students with different learning profiles and study burnout risk succeed in different courses?

Keywords: educational development, evidence-based teaching, learning analytics, research-based teaching

Presenting Author: Antero Salminen, University of Helsinki, Finland; Co-Author:Anna Parpala, University of Helsinki, Finland; Co-Author:Henna Asikainen, University of Helsinki, Finland

The study investigates the relationship between students' learning profiles with study progression, achievement, and well-being in their first year at university. 418 bachelor's students from a large, research-intensive university completed a questionnaire during 2020–2021 academic year. Learning profiles and study burnout were measured using SAL-item and SBI-item, while academic achievement was measured with ECTS, GPA, and course level achievement. The analysis was done identifying distinct learning profiles through latent profile analysis (LPA) and comparing their effects on academic achievement using one-way ANOVA. The LPA revealed seven different profiles: Unreflective I, Deep Organised I, Dissonant, Unreflective II, Unreflective &

Organised, and Deep Organised II. ANOVA showed statistically significant differences in study burnout between these profiles. Also, small GPA difference was detected between Dissonant and Deep Organised II profile. Courses across disciplines where varying learning profiles perform well are explored at the course level and will be reported at the conference.

Enhancing Students' Study, Social, and Personal Skills By 'ACE Yourself' App

Keywords: digital learning, evidence-based teaching, mixed methods, transformative learning

Presenting Author: Daria Ilishkina, Erasmus University Rotterdam, Netherlands; Co-Author:Fred Paas, Erasmus University Rotterdam, Netherlands

The Ace Yourself mobile-learning application aims enhance students' personal, social, and study skills, and, thus, help them with transition to higher education. This study aims to investigate the effectiveness of the Ace Yourself by using a mixed-method experimental-control research design, which includes questionnaires and concept map assessment. Higher education students who learn with Ace Yourself will be compared with those who will not in changes in their basic psychological needs and learning outcomes. Additionally, we plan to investigate what helps students to learn with Ace Yourself and what hinders them from learning by asking them to reflect on their experience through the survey with open questions. The results of this study will add new insights to understanding how students learn with mobile applications. The data collection will be started in February 2024, so we cannot describe the results yet.

Effects of an ACT-based online intervention on university students' well-being and study skills

Keywords: educational development, mixed methods, qualitative methods, quantitative methods

Presenting Author: Ella Kämper, University of Helsinki, Finland; Co-Author:Nina Katajavuori, University of Helsinki, Finland; Co-Author:Henna Asikainen, University of Helsinki, Finland

Psychological flexibility has been found to promote better mental well-being and study skills. This paper examines how university students participating in an online Acceptance and commitment therapy (ACT)-based intervention course, aiming to enhance psychological flexibility and study skills, benefitted from the course concerning their well-being and studying. The study aimed to explore changes in the participants' well-being and study skills during the course and examine how the students attending the course evaluated the usefulness of the course modules based on sub-processes of psychological flexibility. The findings showed that the course promoted participants' organized study skills, psychological flexibility, and emotional and psychological well-being compared to the control group. In addition, we found many aspects how the course promotes one's well-being and learning in different phases of the course.

The effects of online ACT interventions on well-being in working life contexts: A systematic review
Keywords: adaptive expertise, adaptive learning, digital learning, quantitative methods
Presenting Author: Veera Lampinen, University of Helsinki, Finland; Co-Author:Ella Kämper, University of Helsinki, Finland; Co-Author:Henna Asikainen, University of Helsinki, Finland; Co-Author:Viktoria Balla, University of Helsinki, Finland; Co-Author:Nina Katajavuori, University of Helsinki, Finland

The escalating concern over declining employee mental health has led to a surge of interest in Acceptance and Commitment Therapy (ACT)-based interventions. These interventions aim to develop psychological flexibility, associated with reducing burnout, depression, and anxiety, and enhancing overall well-being. While existing literature primarily focuses on face-to-face interventions or specific populations, the shift towards digital solutions has left a gap in the investigation into online ACT-based interventions, particularly in workplace contexts. This systematic review aims to address this gap by investigating the current evidence on the effectiveness of online ACT-based interventions in working life contexts. This review adheres to PRISMA 2020 guidelines, registering its protocol with PROSPERO and employing a comprehensive search strategy across six databases. Preliminary findings suggest moderate reductions in burnout, depression, and anxiety, albeit with significant methodological diversity and variable study quality. Risk of bias analysis using Robvis facilitates insights into internal validity, emphasizing the necessity for standardized protocols.

Systematic review on ACT-based interventions on teacher wellbeing
Keywords: adaptive expertise, adaptive learning, educational development, teaching innovation or innovative teaching practices
Presenting Author: Henna Asikainen, University of Helsinki, Finland; Co-Author:Tiago Carvalho, University of Helsinki, Finland; Co-Author:Nina Katajavuori, University of Helsinki, Finland

Teachers in higher Education like other work classes have showed indications of poor wellbeing. Different kind of interventions have been conducted to address these issues. Among them, the Acceptance-Commitment Therapy (ACT), have shown positive results among students and workers. Yet, there seems to be a lack of literature tackling the effects of ACT-intervention on teachers in educational contexts. The purpose of this paper is to conduct a systematic review on the 3WBT interventions in educational settings, and to compile the positive effects and the traditional limitations of the interventions. The literature search was based on the PRISMA model for systematic review. A total of 33 studies were included in the present study. The preliminary results showed that ACT-based studies can affect teachers' wellbeing and their work engagement positively. Results will be further discussed in the conference.

Poster Session II 2

26 September 2024 12:15 - 13:15
Room 4.7/ 4.8 La Vie - Meeting Center
Guided Poster Presentation
Assessment and Evaluation, Higher Education, Learning and Social Interaction

Poster Presentation Session 6: Innovative Research Methodologies in Education

Keywords: adaptive learning, educational development, evidence-based teaching, mixed methods, qualitative methods, research-based teaching, sustainability, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education, SIG 17 - Methods in Learning Research
Chairperson: Bilge Gencoglu, University of Groningen, Netherlands

Evaluating Educational Innovation
Keywords: evidence-based teaching, mixed methods, research-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Erna Engelbrecht, Delft University of Technology, Netherlands; Co-Author:Marcus Specht, TU Delft, Netherlands; Co-Author:Remon Rooij, Delft University of Technology, Netherlands; Co-Author:Johannes Strobel, University of Texas at El Paso, United States

While courses are periodically updated and improved with the integration of new teaching methods and technologies, we still lack a systematic, research-informed method for evaluating educational innovations. Existing evaluations often lack contextual transparency to enable transferability to other courses and are mostly limited to student surveys. To take on this problem, we developed a framework for evaluating innovation in courses. The accompanying poster will present elements from this framework. The results presented in the accompanying poster are based on two literature reviews and a workshop. The framework prescribes an iterative process: (1) analysis of the innovation and its context of implementation, and (2) development of the evaluation plan. To apply the framework, both a formal (consultancy format) and an informal method (workshop) have been developed. Educators can use the framework to take a more scholarly approach to evaluating educational innovations for better decision-making, and to make teaching achievements more visible.

Design Based Research - a new frontier for accounting education
Keywords: educational development, mixed methods, research-based teaching, teaching innovation or innovative teaching practices
Presenting Author:Ellinor Allen, Monash University, Australia; Co-Author:Colin Jevons, Monash University, Australia

The accounting profession is in crisis due to graduates lacking critical thinking skills, shining the spotlight on outdated content and pedagogies in tertiary accounting education. Critical thinking is broad and complex, ill-defined, difficult to measure and inextricably linked to learning. In such a 'messy' context, a Design-Based Research (DBR) approach offers an opportunity to understand the complexity of the situation and identify factors contributing to the skills shortage problem. Literature around critical thinking, critical thinking skills development, and student learning guided the design of a pedagogical intervention aimed at fostering critical thinking skills' development. The progressive findings of two iterations of the intervention are discussed, along with learnings that prompted changes to the intervention design consistent with DBR principles. The iterative nature of this methodology was unfamiliar in accounting education research, but findings were rich and insightful, directing attention to issues at the introductory accounting level that warrant further investigation.

The interview as a complementary tool for the identification of learning patterns
Keywords: adaptive learning, educational development, mixed methods, qualitative methods
Presenting Author: Jose Reinaldo Martinez-Fernandez, Universitat Autònoma de Barcelona, Spain; Co-Author:Anna Ciraso, Universitat Autònoma de Barcelona, Spain; Co-Author:Júlia Llompart Esbert, Universitat Autonoma de Barcelona, Spain

The identification of students' learning patterns is an increasingly relevant task for the design of training actions in the context of Higher Education. However, the extension of the model to other educational levels, such as Primary and Secondary Education, is becoming increasingly necessary, too. This implies that the Inventory of Learning Patterns of Students (ILS) should be redefined, adapted and even "triangulated" in a mixed methods approach. In this study, a semi-structured interview is presented in three possible versions of application (individual, group or tutor). Exploratory results are presented from two studies, one with primary school students and their tutors, and the other with university students in the context of their professional practice. The potentials and limitations of the semi-structured interview for the identification of learning patterns are discussed.

'The effects forum': a novel qualitative method of evaluating complex learning interventions
Keywords: educational development, evidence-based teaching, qualitative methods, transformative learning
Presenting Author: Maarten van der Ven, Radboud University Nijmegen Medical Centre, Netherlands; Co-Author:van van Asselt, UMC St Radboud, Netherlands; Co-Author:Natasja Looman, Radboudumc, Netherlands; Co-Author:Lia Fluit, Radboud University Medical Center, Netherlands; Co-

Author:Wietske Kuijer-Siebelink, Radboud University Nijmegen Medical Centre, Netherlands

The study employs a novel evaluation method called 'The effects forum,' adapted from social sciences, to assess the impact of complex learning interventions on residents' behavior. The 'effects forum' was piloted to explore changes in collaborative behavior in residents that had participated learning interventions on interphysician collaboration between primary and secondary care. 'The effects forum' is a group discussion including all stakeholders, guided by a time line. Participants are actively included in data collection and interpretation as one of them as appointed 'effects monitor'. Results of the pilot 'effect forums' indicated improved collaborative behavior among residents, such as increased participation in handovers and discussions, clearer formulation of referral questions, and enhanced patient-physician relationships. The 'effects forum' facilitated reflection on collaborative behavior changes, highlighting its significance beyond reported learning outcomes in learning interventions on interphysician collaboration between primary and secondary care.

Positioning Internationalisation in Relation to Design Based Education: Two Concepts, one Goal
Keywords: educational development, sustainability, teaching innovation or innovative teaching practices, transformative learning
Presenting Author: Leanne Jansen-Schreurs, NHL Stenden University of Applied Sciences, Netherlands; Co-Author:Grada Okken, NHL Stenden University of Applied Sciences, Netherlands; Co-Author:Migchiel Riemer van Diggelen, NHL University of Applied Sciences, Netherlands; Co-Author:Wayne Johnson, NHL Stenden University of Applied Sciences, Netherlands

Internationalisation has become integral to higher education, alongside shifts towards student-led methodologies like Design Based Education (DBE). NHL Stenden University of Applied Sciences, located in the Netherlands, stands at the intersection of these concepts. However, limited research exists on the effectiveness of DBE, especially concerning international learning outcomes. This position paper explores and positions the relationship between internationalisation strategies and DBE practices at NHL Stenden. Internationalisation encompasses diverse activities aimed at infusing global dimensions into education, including international student exchange and incorporating international aspects into domestic learning. Discourses around internationalisation practices vary, from integration into existing content to concerns about Western-centricity and environmental impacts. DBE emphasises experiential learning and problem-solving, aiming to produce globally-oriented graduates. Preliminary findings suggest that the intersection of internationalisation and DBE fosters innovation and collaboration. Further research is needed to deepen understanding and address challenges, offering promising opportunities for transformative educational experiences.

The Scale-Up of Bottom-Up Innovations in Higher Education
Keywords: educational development, qualitative methods, sustainability, teaching innovation or innovative teaching practices
Presenting Author: Nynke van Ketel, University of Amsterdam, Netherlands; Co-Author:Bieke Schreurs, University of Amsterdam, Netherlands; Co- Author:Natalie Pareja Roblin, University of Amsterdam, Netherlands; Co-Author:Frank Cornelissen, University of Amsterdam, Netherlands

To enhance the impact and reach of bottom-up innovations, it is important that they scale up. However, scaling innovations is a complex process. There is little empirical research on how and why bottom-up innovations scale up, particularly in the context of higher education. This study aims to address this gap by contributing empirical insights into the process and factors that foster the successful scale of bottom-up innovations in higher education. A retrospective explanatory comparative multiple case study is conducted, including three cases that once started as a small-scale bottom-up project now reaching institution- wide implementation. Data was collected through in-depth interviews and document analyses. Coburn's (2003) four dimensions of scale (spread, sustainability, shift in ownership and depth), are used to analyze how and why these innovations reached scale. Results will be discussed during the presentation. The study contributes to insights for policymakers and innovators in HE to scale innovations.

Poster Session II 3

26 September 2024 12:15 - 13:15
Room 4.13 / 4.14 La Vie - Meeting
Center Guided Poster Presentation
Assessment and Evaluation, Higher Education, Instructional Design, Teaching and Teacher Education

Poster Presentation Session 7: Personalized and Inclusive Education

Keywords: adaptive learning, adaptive performance, challenge-based learning, digital learning, educational development, evidence-based teaching, learning analytics, mixed methods, qualitative methods, quantitative methods, research-based teaching, teaching innovation or innovative teaching practices
Interest group: SIG 04 - Higher Education, SIG 20 - Inquiry Learning
Chairperson: Freija ter Heegde, University Utrecht, Netherlands

Interventions for navigating flexible curricula: what do we know & where do we go? A scoping review
Keywords: adaptive learning, educational development, evidence-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Eveline Kallenberg, UMC Utrecht, Netherlands; Co-Author:Renske de Kleijn, UMC Utrecht, Netherlands; Co-Author:Harold van Rijen, UMC Utrecht, Netherlands; Co-Author:Sanne ter Meulen-de Jong, UMC Utrecht, Netherlands

This scoping review aims to present the current literature on interventions supporting students in navigating flexible curricula in higher education, examining outcome measures and effective characteristics. Students in the local context of the researchers face challenges in navigating their studies containing flexible elements, possibly impacting their professional development and time to degree. Inclusion criteria for this review encompass primary and secondary research studies in higher education, emphasizing choices about curriculum content and structure. Following the JBI methodology, the preregistered literature search is executed in Scopus, Web of Science, ERIC, PsychInfo, and PubMed. Screening (approx. 8000 articles before duplicate deletion) involves two stages: first the titles and abstracts will be screened, followed by full-text examination. The extracted data will be organized, and key findings will be assembled and summarized. Keywords: Higher education; flexible curriculum; decision-making; intervention

Using colors, cards and conversations to organize valuable feedback on a university course
Keywords: educational development, evidence-based teaching, qualitative methods, teaching innovation or innovative teaching practices
Presenting Author: Marije van Braak, Utrecht University, Netherlands

Student evaluations of university teaching have been criticized widely for the limited validity and reliability of the instruments commonly used. Evidence culminates that they are of (almost) no use in contributing to good education and good teaching. Many questions that could be informative for gaining insight into educational and teaching quality never get asked in standard (digital) evaluation forms. Literature on student evaluations of university education points towards the importance of *ecological* and *dialogic* ways of evaluating. In this poster presentation, I present the results of a small research project in which we piloted a different form of evaluations using *colors, cards* and student-to-student *conversations* in one university course. Preliminary analyses show that this evaluation format affords greater involvement of teachers and students in ways that facilitate agency, develop students' evaluative judgement, and provide for collaborative meaning-making.

Investigating the impact of inquiry-style tutorials on student engagement
Keywords: evidence-based teaching, mixed methods, research-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Jennifer Casey, University Utrecht, Netherlands; Co-Author:Pieter Bruijnincx, University Utrecht, Netherlands; Co-Author:Matthias Schwalbe, University Utrecht, Netherlands

Given pervasive concerns about declining student engagement, the focus of this project is to determine ways to increase student participation. The course under investigation is a second-year course designed for a chemistry bachelor's program. The course's tutorials previously consisted of students working through traditional problem sets and asking for assistance if needed. But over the last few years, there has been a decline in attendance and student participation; as such, we have setup a comparison study. The course consists of six tutorials, and we transformed three of these tutorials by replacing the traditional problem sets with new activities that are inquiry-based. Student engagement in the six tutorials is measured through a weekly Activity Engagement Survey, as well as

through direct observation of students using a modified COPIE-STEM protocol. Semi-structured interviews with students are also performed in order to determine what aspects of tutorials motivate students to participate.

Integrating education and data collection: A semester-long workbook for students

Keywords: adaptive learning, learning analytics, research-based teaching, teaching innovation or innovative teaching practices

Presenting Author:Julia Raberger, University of Vienna, Austria; Co-Author:Carla Quesada-Pallarès, Universitat Autònoma de Barcelona, Spain; Co-Author:Dominik E. Froehlich, University of Vienna, Austria; Co-Author:Athina Negri, University of Ioannina, Greece; Co-Author:Ira Darmawanti, State University of Surabaya, Indonesia; Co-Author:Kristin Weiherer, University of Regensburg, Germany

Teaching research methods within experimental settings, such as service-learning, necessitates practical engagement and reflection to address real-world challenges in higher education. Recognising the difficulties in designing effective learning environments, such as providing appropriate information, organisational support and feedback, a semester-long workbook approach is proposed to support student learning. In addition, to evaluate the effectiveness of service-learning in developing research skills and dispositions, the workbook method uses reflective opportunities as a means of data collection. This innovative approach aims not only to support student learning, but also to contribute to the ongoing improvement of research methods education in experiential learning environments. In this poster presentation, we assess the effectiveness of this approach and explore useful design features.

How does social anxiety affect students' communicative competences?

Keywords: challenge-based learning, digital learning, quantitative methods, teaching innovation or innovative teaching practices

Presenting Author:Julia Fecke, Justus-Liebig-University Giessen, Germany; Co-Author:Katharina Lohberger, Justus Liebig University Giessen, Germany; Co-Author:Edith Braun, Justus-Liebig-University Giessen, Germany

The acquisition of communicative competences is essential for students. In higher education, simulations in form of role-plays, are useful to practice communicative competences under authentic conditions, yet their use is often linked to anxieties and inhibitions. Virtual learning environments offer a safe space for such interactions, especially for students with higher social anxiety. To enable students to test their communication competences in a protected setting, we developed a digital learning environment in which simulations were conducted in videocamera-based and avatar-based environments. 61 students of teacher education performed the simulation of communication situations. A structural equation model show that social anxieties can impact communicative competences in virtual environments. But there are also learning effects: so that social anxiety, which had a negative effect *before* the role-plays, have a *positive* effect after the simulation. The results provide first empirical evidence on the benefits of using role-plays in virtual learning environments.

Benefits and barriers of online learning for students with disabilities

Keywords: digital learning, evidence-based teaching, mixed methods, teaching innovation or innovative teaching practices

Presenting Author:Maria Öhrstedt, Stockholm University, Sweden; Co-Author:Annika Käck, Stockholm University, Sweden; Co-Author:Helena Reierstam, Stockholm University, Sweden

In this study, the experiences of online learning were compared between students with and without disabilities. A survey with quantitative and qualitative questions was conducted among 6156 Swedish university students, including 430 students with disabilities, (SWD), in spring 2021. The results showed that SWD preferred online learning in some aspects, such as providing conditions for better focus, less distractions, and less energy consumption at home. They also reported that online learning reduced the impact of their disabilities and that technology supported their learning. However, SWD also faced challenges such as poor communication, inadequate instructions, low technological pedagogical knowledge of teachers, and lack of motivation and self-management. In higher education, both the benefits and the barriers of online learning for SWD should be considered. Teaching and learning can improve with inclusive online practices. SWD asked for more transparent course designs, more interactions, and more respectful online behaviour.

Personalized Assessment: Exploring Contract Grading in Service-Learning Courses

Keywords: adaptive performance, challenge-based learning, research-based teaching, teaching innovation or innovative teaching practices

Presenting Author:Dominik E. Froehlich, University of Vienna; New Design University, Austria; Co-Author:Julia Raberger, University of Vienna, Austria; Co-Author:Franzsika Messenboeck, University of Vienna, Austria; Co-Author:Ulrich Hobusch, University College for Agricultural and Environmental Education, Austria; Co-Author:Martin Scheuch, University College for Agricultural and Environmental Education, Austria; Co-Author:Carla Quesada-Pallarès, Universitat Autònoma de Barcelona, Spain

This paper presentation explores the potential of contract grading in service-learning courses within higher education, highlighting the need for individualized learning. It delves into the necessity of adaptive grading systems in modern educational paradigms, emphasizing the misfit of traditional grading metrics with the experiential nature of service-learning. It introduces contract grading as a solution, aligning with contemporary educational values and suitable for service-learning contexts. Then a case study is presented, illustrating the application of contract grading in a service-learning framework within teacher education. It discusses the international adoption of this model and the resulting need for a standardized grading approach. The paper presentation concludes with reflections on the impact of contract grading from both student and instructor perspectives, summarizing its efficacy and challenges, and providing recommendations for educators and areas for future research.

Collaborative Spaces / JURE Workshop II 1 – For a detailed description of the JURE workshops see page 30

26 September 2024 14:00 - 15:45
Room 5.1 La Vie - Meeting Center
Collaborative Space
Teaching and Teacher Education

Collaborative Space - Session 6

Keywords: adaptive expertise, adaptive performance, educational development, teaching innovation or innovative teaching practices
Interest group: SIG 04 - Higher Education

Small Groups, Big Challenges: Exploring Adaptive Expertise in Higher Education

Keywords: adaptive expertise, adaptive performance, educational development, teaching innovation or innovative teaching practices

Presenting Author:Lisette van Bruggen, UMC Utrecht, Netherlands; Co-Author:Despoina Georgiou, Utrecht University, Netherlands; Co-Author:Heleen Pennings, UMC Utrecht, Netherlands

In Higher Education, there is a growing interest in training students to become adaptive experts. To guide these students, higher education teachers must exhibit adaptive performance demonstrating the ability to navigate unknown and novel situations within their field of expertise and in their teaching practice. In this research project, we seek to identify challenging situations in (innovative) small group teaching that might require specific adaptability from teachers, linking these challenges to the teachers' level of experience. We anticipate that novice teachers may perceive challenging teaching situations differently than more experienced teachers. In this session, our goal is to advance and expand our research by engaging teachers with various levels of experience to identify and rank teaching situations based on the level of "adaptive expertise" they demand. Our ultimate goal is to integrate these scenarios into a virtual reality (VR) environment to aid teachers in their professional development.

Collaborative Spaces / JURE Workshop II 2

26 September 2024 14:00 - 15:45
Room 5.2 La Vie - Meeting Center
Collaborative Space
Lifelong Learning

Collaborative Space - Session 7

Keywords: adaptive learning, educational development, sustainability, teaching innovation or innovative teaching practices
Interest group: SIG 14 - Learning and Professional Development

Cocreating a framework for teachers to enable student agency within higher design education
Keywords: adaptive learning, educational development, sustainability, teaching innovation or innovative teaching practices
Presenting Author: Hilde Van Dyck, Antwerp University, Belgium

In a student agency model, learning transcends mere instruction and evaluation; it embodies a collaborative process of co-agency, where teachers and students become co-creators in the teaching and learning journey. Teachers play a pivotal role in fostering a learning environment that honors and promotes student agency. To effectively support this, teachers must possess the capacity to act purposefully and constructively, directing their professional growth while contributing to that of their students and colleagues. This necessitates support mechanisms, aimed at equipping teachers with the skills and knowledge to design learning environments that foster and sustain student agency. Therefore, this collaborative space aims to identify and cultivate the competencies required for teachers to effectively enable student agency in educational settings. Through collaborative dialogue and shared expertise, the workshop endeavors to develop actionable strategies and resources to empower teachers in this critical endeavor.

Collaborative Spaces / JURE Workshop II 3

26 September 2024 14:00 - 15:45
Room 5.3 La Vie - Meeting Center
Collaborative Space
Teaching and Teacher Education

Collaborative Space - Session 8

Keywords: educational development, evidence-based teaching, mixed methods, teaching innovation or innovative teaching practices
Interest group: SIG 04 - Higher Education

Rethinking teaching profession: a framework for a research-based teacher education model
Keywords: educational development, evidence-based teaching, mixed methods, teaching innovation or innovative teaching practices
Presenting Author: Georgeta Ion, Universitat Autonoma de Barcelona, Spain; **Presenting Author:**Despoina Georgiou, Utrecht University, Netherlands

This collaborative session is designed to foster debate and constructive collaboration on the topic of research-based teaching profession. The objective is to introduce and delve into a project proposal centered on examining how educational research can enrich teachers' development, shape their professional identity, and enhance their teaching practice. Throughout this collaborative space, our intention is to present the proposal, receive audience feedback on its relevance, facilitate discussions on specific subthemes within the project through small groups interactions, and explore potential opportunities for collaboration and synergies among participants. The session will adopt a participatory and collaborative approach, ensuring active engagement from all attendees. We will utilize a condensed version of the "ambition loop" methodology to identify synergies and establish consensus among participants, encouraging an inclusive and dynamic exchange of ideas.

Collaborative Spaces / JURE Workshop II 4

26 September 2024 14:00 - 15:45
Room 5.9 La Vie - Meeting Center
Collaborative Space
Higher Education

Collaborative Space - Session 9

Keywords: educational development, evidence-based teaching, sustainability, teaching innovation or innovative teaching practices
Interest group: SIG 04 - Higher Education

Enhancing well-being and resilience in higher education
Keywords: educational development, evidence-based teaching, sustainability, teaching innovation or innovative teaching practices
Presenting Author: Marjon Fokkens-Bruinsma, University of Groningen, Netherlands; Co-Author:Esmee Kamp-Bolks, University of Groningen, Netherlands;
Co-Author:Marieke Pillen, Katholieke Pabo Zwolle, Netherlands

Research has shown that HE students, compared to peers, show a higher amount of psychological distress. Enhancing positive well-being and resilience are important, as a positive well-being helps students deal with the challenges and stressors they may encounter. Furthermore, resilience describes the capacity to use and strengthen the psychological and contextual resources that enhance positive well-being. Despite the increasing attention to well-being and resilience in higher education, not much research is done on how educational programs enhance HE students' resilience and well-being. This collaborative workspace focuses on strengthening a network of researchers/practitioners/policy makers that are interested in research on enhancing well-being and resilience of HE students. By the end of the session, participants will have gained more insight into the concepts of well-being and resilience and have shared their experiences with (enhancing) well-being and resilience of students. Furthermore, ideas for and expectations about future collaborations will have been discussed.

Collaborative Spaces / JURE Workshop II 5

26 September 2024 14:00 - 15:45
Room 4.7 / 4.8 La Vie - Meeting Center
Collaborative Space

Collaborative Space - Session 10

Keywords: AI in higher education, mixed methods, qualitative methods, quantitative methods
Interest group: SIG 17 - Methods in Learning Research

Promoting Open Science in Learning Research: Collaborative Exploration of Future Directions
Keywords: AI in higher education, mixed methods, qualitative methods, quantitative methods
Presenting Author:Jürgen Schneider, DIPF | Leibniz Institute for Research and Information in Education, Germany; Co-Author:Caspar J. Van Lissa, Tilburg University, Netherlands; Co-Author:Olmo R. van den Akker, Tilburg University, Netherlands; Co-Author:Marjan Bakker, Tilburg University, Netherlands

In this collaborative space session, we aim to foster a dynamic dialogue on open science practices within the context of learning research. We will focus on three aspects of open science in learning research: (1) pre-registration and registered reports, (2) open and FAIR data, and (3) open and reproducible code. Each of these three aspects will be related to the field of methods in learning research, highlighting their importance, their potential and any challenges they present. The goal of the event is to collaboratively identify best practices related to these aspects and explore the potential of enabling best practices in the community in the future. To identify the potential and challenges, we apply a framework for system change relating the three aspects of open science to current developments in the community.

Symposia 1

26 September 2024 16:00 - 17:30
Room 5.7/ 5.8 La Vie - Meeting Center
Symposium
Higher Education

Methods for developing measures of academic self-efficacy for use in higher education

Keywords: educational development, evidence-based teaching, qualitative methods, quantitative methods
Interest group: SIG 17 - Methods in Learning Research
Chairperson: Tine Nielsen, Denmark
Organiser: Tine Nielsen, Denmark
Discussant: Edith Braun, Justus-Liebig-University Giessen, Germany

Instruments for the assessment and measurement of academic self-efficacy in higher education comes in many shapes and forms. This diversity is not only governed by the more specific type of academic self-efficacy, which is assessed, e.g. freshmen self-efficacy, specific academic learning self-efficacy, practice self-efficacy, community science self-efficacy, etc. The diversity also stems from the methods used to develop the instruments and the resulting instruments. The symposium gathers and present this diversity in the methods used to develop specific instruments for the assessment of academic self-efficacy in higher education. Each of the three presentations will focus on the instrument development phase of three specific measures of academic self-efficacy stemming from the US, Germany and Denmark, the reasons for using the chosen methods in relation to what was to be assessed/measured, and the instrument properties that was aimed for.

Gauging Alignment Between Self-Efficacy Scales and Research Design for Student-Directed Projects
Presenting Author: Suzanne Hiller, Blue Swallow Farm Foundation, Center for Research and Instruction in the Natural World, United States

Assessing self-efficacy is an effective way to measure the impact of student motivation for engaging in student-directed projects. However, there is potential for a misalignment between the choice of self-efficacy scales and the overall research design. The Self-Efficacy for Research Scale (SERS) emerged in response to a need to examine student self-efficacy for student-directed research apart from self-efficacy for scientific observation skills. The present work outlines the mixed methods process in developing the SERS. Qualitative findings analyzed through a constant comparative analysis approach in a first pilot study informed the development of the SERS. Further, expert feedback and references to literature aided in item development. Exploratory factor analysis and correlational findings in a second pilot study provided initial reliability and validity evidence. The scale was further validated with undergraduate students engaged in independent research through exploratory and confirmatory factor analysis. Suggestions for future research and educational implications are discussed.

Assessing Freshmen Self-Efficacy (FSE) – Development and Psychometric Properties of the FSE Scale
Presenting Author: Pascale Stephanie Petri, Hochschule für Wirtschaft und Umwelt Nürtingen-Geislingen, Germany

Originally introduced by Bandura (1977), self-efficacy is the confidence in one's own capability to successfully overcome challenges and exert actions to reach intended goals. It is important to distinguish between general and context-specific self-efficacy. Whereas the former is the general confidence in one's own capability, the latter one is context-specific and therefore especially applicable for context-specific prediction (cf. predictor-criterion-symmetry). Hence, self- efficacy in the first year in higher education appears to be a promising predictor of objective and subjective measures of study success in the first year. Building on a literature review about challenges freshmen typically face, the freshmen self-efficacy scale (13 items) was developed. The scale's psychometric properties were explored form the perspective of the classical test theory as well as the item response theory. First studies do not only show acceptable to good item properties as well as good reliability but also indicate the scale's construct and criterion validity.

Development of the Field Practice Self-Efficacy Questionnaire (FPSEQ) for student teachers
Presenting Author: Tine Nielsen, UCL University College, Denmark; Co-Author:Morten Pettersson, UCL University College, Denmark; Co-Author:Line Toft, UCL University College, Denmark; Co-Author:Dag Munck Lindemann, UCL University College, Denmark; Co-Author:Gitte Gorm Larsen, UCL University College, Denmark

Teacher self-efficacy is well researched and several instruments exist, but no instruments specifically targeting field practice in teacher education is available. Thus, a new instrument had to be developed for this purpose. A mixed method approach was applied. To gain a broad understanding of the specific teacher and teaching-related practices student teacher might doubt they had the abilities to enact/engage in while in field practice, qualitative data were collected from a multitude of sources using focus-group interviews, individual interviews, written statements and documents analyses. Secondly, teacher and teaching practices were extracted across informants ($N_{statements} = 70$) and subjected to content analysis to obtain unique practices ($N_{unique} = 42$). The unique statements were systematized in an agreement circle and Jaccard's similarity coefficients were calculated. The unique practices were developed into items and thematically divided into seven subscales, which were consolidated by experts. The initial subscales will be analysed using Rasch models.

Symposia 2

26 September 2024 16:00 - 17:30
Room 5.1 La Vie - Meeting Center
Symposium
Higher Education

Navigating from classroom to real-world: student perspectives of Challenge-Based Learning

Keywords: challenge-based learning, mixed methods, qualitative methods, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education
Chairperson: Kerstin Helker, Eindhoven University of Technology, Netherlands
Organiser: Karolina Doulougeri, Eindhoven School of Education, Netherlands
Discussant: Liisa Postareff, HAMK University of Applied Sciences, Finland

Challenge-Based Learning (CBL) is an innovative approach responding to calls for more sustainable higher education. Through a shift in student and teacher roles, CBL allows students to work and learn in interdisciplinary and collaborative contexts more autonomously. Prior CBL research has discussed some key aspects including real-life and open-ended challenges, interdisciplinarity and collaboration, and suggested positive effects of CBL on students' professional and personal growth. Nevertheless, many open questions remain. In this symposium, four contributions from three countries will dive deeper into student perceptions of learning processes in and benefits of the CBL learning experience. It involves students from various disciplines and educational stages, including those in early career phases after graduation. The aim is to deepen our understanding of how CBL is perceived and experienced by a broad spectrum of learners informing future research and practice.

From Guidance to Autonomy: Students' Perceptions of Teacher Regulation in Challenge-Based Learning
Presenting Author: Karolina Doulougeri, Eindhoven School of Education, Netherlands; Co-Author:Gunter Bombaerts, Eindhoven University of Technology, Netherlands; Co-Author:Michael Bots, Eindhoven University of Technology, Netherlands; Co-Author:Jan Vermunt, Eindhoven University of Technology, Netherlands

In Challenge-Based Learning (CBL), teachers and students are encouraged to shift from traditional roles. Teachers need to adopt the role of facilitators or coaches, while students need to become self-regulated learners. The balance between optimal guidance and autonomy in CBL needs to be better understood. In this study, we compared two forms of teacher regulation in CBL: Strong and Shared teacher regulation. We studied how each form influenced students'

learning experiences during the course. We analyzed 50 students' learning diaries completed at the end of weeks 2, 5, and 8 of an 11 week-course. The findings suggest differences in student experiences, especially at the beginning of the course. The study findings highlight the importance of teacher roles in facilitating cognitive and social aspects of student learning and contribute to a deeper understanding of optimal teacher-student dynamics in CBL. Recommendations for future research and practice are discussed.

Association of Student Engagement and Interdisciplinary Project Management Efficacy Beliefs in CBL

Presenting Author: Selina Michel, Technical University Munich, Germany; Co-Author:Manuel Foerster, Technical University Munich, Germany

Challenge-based learning (CBL) aims to prepare students to tackle societal challenges in interdisciplinary projects. If students share a positive perception of interdisciplinarity, student engagement in CBL can contribute to the development of relevant self-efficacy beliefs in interdisciplinary project management by targeting sources of self-efficacy. This study examines the influence of the perception of interdisciplinary team composition on student engagement (research question 1) and the influence of student engagement in CBL on interdisciplinary project management efficacy beliefs (research question 2). In a cross-sectional design, $N = 87$ students in CBL courses were surveyed using standardized scales. The path model shows significant paths for the perception of interdisciplinary team composition on all components of student engagement. However, the results indicate that not every component of student engagement influences every efficacy belief relevant to interdisciplinary project management. Implications for research and educational practice are discussed.

Embracing CBL: Student Teachers' Experiences and Perspectives in International Teacher Training

Presenting Author: Simon David, Ghent University, Belgium; Co-Author:Karolien Keppens, Ghent University, Belgium; Co-Author:Tammy Schellens, Ghent University, Belgium; Co-Author:Ruben Vanderlinde, Ghent University, Belgium

This study, conducted by the ENLIGHT Teacher Education Network (TEN), investigates the effectiveness of Challenge-Based Learning (CBL) in a Blended Intensive Programme (BIP) for shaping future educators. Engaging 21 student teachers from diverse European universities, the research employs a mixed-method approach combining quantitative surveys and qualitative focus groups. The study highlights CBL's role in fostering independent thinking, solution-driven learning, and addressing contemporary educational challenges. It emphasizes the importance of international collaboration in enhancing teaching methodologies and CBL's potential in evolving educational paradigms. The findings advocate integrating global perspectives and innovative strategies in teacher education, preparing educators for a diverse, interconnected world.

All said and done? – Reflections of CBL alumni

Presenting Author: Kerstin Helker, Eindhoven University of Technology, Netherlands; Co-Author:Isabelle Reymen, Eindhoven University of Technology, Netherlands; Co-Author:Miguel Bruns, Eindhoven University of Technology, Netherlands; Co-Author:Jan Vermunt, Eindhoven University of Technology, Netherlands

Challenge-Based Learning (CBL) has been implemented in numerous educational contexts and prior research has found a variety of benefits for students, but data are usually collected during or right after the course which does not allow for inferences on whether these learning outcomes are lasting. This research undertakes a first attempt to explore the long-term learning gains in CBL by surveying CBL alumni one to several years after their participation in a CBL course, about their course motivation, (dis)advantages of CBL, key learnings and competence development. Alumni mentioned the freedom granted in CBL projects that required dealing with uncertainty and self-regulation both as advantages *and* disadvantages and described many key learning outcomes. Results support prior work regarding student learning outcomes of CBL, but also fuel on-going discussion in CBL research and practice on what and how much guidance is needed and how learning outcomes can best be assessed.

Symposia 3

26 September 2024 16:00 - 17:30
Room 5.3 La Vie - Meeting Center
Symposium
Lifelong Learning

Using Innovative Statistical Methods to Investigate what Matters for Transfer of Training

Keywords: adaptive expertise, adaptive learning, educational development, learning analytics, mixed methods, qualitative methods, quantitative methods, research-based teaching
Interest group: SIG 17 - Methods in Learning Research
Chairperson: Bastian de Jong, University of Amsterdam, Netherlands Chairperson:
Andreas Gegenfurtner, University of Augsburg, Germany Discussant: Carla Quesada-
Pallarès, Universitat Autonoma de Barcelona, Spain

Despite organizational investments in employee trainings, transfer of training remains limited. To examine antecedents predicting transfer of training, researchers often employ regression analyses or structural equation modelling. However, using other methodologies might provide new insights into antecedents of transfer of training. In this symposium, we will present four studies with nontraditional statistical methods for the transfer of training literature. Susanne Wißhak and Alexander Neumann present a study that employed item response theory to examine the dimensionality of knowledge among trainers about antecedents of transfer of training. Helena Roig presents a study that used network analyses, cluster analyses and multi group structural equation modelling to examine relationships between transfer beliefs and transfer of training. Sylvia Gabel presents a study that employs a multi- and mixed-method design of subjective and objective transfer measures. Finally, Bastian de Jong presents a study that explored transfer motivation profiles by means of a latent profile analysis.

Employing a Person-Centered Approach to Explore Transfer Motivation Profiles

Presenting Author: Bastian de Jong, University of Amsterdam, Netherlands; Co-Author:Joost Jansen in de Wal, University of Amsterdam, Netherlands; Co-Author:Frank Cornelissen, University of Amsterdam, Netherlands; Co-Author:Thea Peetsma, University of Amsterdam, Netherlands

Transfer of training research often employs a variable-centered approach to investigate the dynamics of transfer motivation. However, individuals might differ in patterns of transfer motivation types, based on which transfer motivation profiles might be derived. Using the Unified model of Task-specific Motivation (UMTM), we employed a Latent Profile Analysis to explore the existence of transfer motivation profiles, whether members of these profiles differ in antecedents predicting transfer motivation, and whether they differ on transfer intention and transfer of training. We collected questionnaire data based on the UMTM components among 1317 participants directly after the training. Trainees indicated transfer six weeks later. Outcomes reveal four transfer motivation profiles, labelled as 'very optimistic', 'moderately optimistic', 'personal value' and 'conscious'. These profiles differ on antecedents of transfer motivation and on transfer intention and transfer of training. The outcomes imply that trainees require tailored support at work and trainings to foster transfer motivation.

Measuring trainers' transfer knowledge: evaluating the construct's dimensionality

Presenting Author: Alexander Naumann, Center for Research on Education and School Development (IFS), Germany; **Presenting Author:**Susanne Wisshak, RPTU Kaiserslautern-Landau, Germany

Despite the extensive research on the determinants of the transfer of training (Bell et al., 2017), the professional personnel who conduct training – the trainers – have been overlooked so far. Similar to the general importance of teachers for students' learning outcomes, one may assume that trainers require knowledge of what determinants affect transfer and how to promote transfer. However, the dimensional structure of trainers' knowledge about transfer of training has not been investigated empirically. Thus, the present study aims to investigate its dimensional structure. Based on Baldwin and Ford's (1988) widely recognized theoretical model, we conceptualized trainers' transfer knowledge as a three-dimensional construct. Using responses of 341 trainers on 31 items assessing transfer knowledge, we analyzed whether the assumed three-dimensional structure can be found in empirical data and whether it holds up in comparison with other plausible models. Results indicate empirical evidence supporting the expected three-dimensional structure of trainers' transfer knowledge.

Using Cluster Analysis, SEM and NA to study the influence of Transfer Beliefs on Transfer

Presenting Author:Helena Roig-Ester, ESCOLA UNIVERSITARIA INFERMERIA I TERÀPIA OCUPACIONAL TERRASSA (EUIT), Spain; Co-Author:Aitana González Ortiz de Zárate, Udima (Madrid Open University), Spain; Co-Author:Paulina Robalino, Slik Research Center, Spain; Co-Author:Anja Garone, Brussels Institute for Advanced Studies (BrIAS), Belgium; Co-Author:Carla Quesada-Pallarès, Universitat Autònoma de Barcelona, Spain

New methodologies are needed to study training transfer. SEM has been a highly used technique to study transfer models. NA has emerged as a new approach that provides a visual representation of a given network. We explored the relation of transfer beliefs and transfer using variable and person-oriented approaches according to trainees' predisposition to transfer groups. Following a longitudinal design, t1 (before the training) measured trainees' beliefs about transfer, commitment to transfer, and intention to transfer; t2 (after the training) measured transfer and implementation intention actions (268 participants). The results of the NA confirmed the structure of the EFA. The NA model offered the visual representation of the network complimentary to the results obtained via SEM. NA by cluster and SEM multigroup by cluster provided different models and architectures based on the cluster. Implications of SEM and NA combined use are discussed as new approaches to study transfer.

Multi- and Mixed-Method Design to Measure Training Transfer: Training Teachers' Digital Competencies

Presenting Author:Sylvia Gabel, University of Augsburg, Germany; Co-Author:Andreas Gegenfurtner, University of Augsburg, Germany

Abstract Teacher professionalization requires regular training. However, it is often uncertain whether the training has a learning effect and even a positive transfer effect into practice. For this reason, it is important to evaluate the impact of trainings. Researchers can choose different methodological approaches. The aim of our conceptual paper is to present the possibilities of multi- and mixed methods designs to measure transfer of training. Embedded in an evaluation project to foster teachers' digital competences, we reflect on evaluation designs, methods on data collection, multi-method data sources, and data triangulation. We aim to demonstrate advantages and possible approaches that go beyond usual questionnaire studies in order to measure training transfer in greater depth and from different perspectives.

Symposia 4

26 September 2024 16:00 - 17:30
Room 4.7 / 4.8 La Vie - Meeting Center
Symposium
Higher Education

The dynamic nature of students' sense of belonging

Keywords: educational development, mixed methods, qualitative methods, sustainability, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education
Chairperson: Tamara van Woezik, Radboud University Nijmegen, Netherlands
Discussant: Aike Dias-Broens, Erasmus University Rotterdam, Netherlands

Although sense of belonging has long been identified in the research literature as an important contributor to students' well-being and academic achievement, its temporal properties - and the ways in which it might be understood as dynamic rather than static - are less clearly understood. This symposium will contribute to this growing area of research by questioning how the dynamic nature of belonging can inform new models and modes of understanding. The resulting insights can help to understand why interventions work or fail, provide principles for universities to foster students' sense of belonging over a longer periods of time, inform institutional policies, and give students agency over their belonging. Through presentation of our varied approaches and findings, we will demonstrate the value of exploring sense of belonging as dynamic concept, and explore the consequences for research (e.g. balancing quantitative and qualitative methods) and for practice (e.g. interventions).

Stories of transition: The development of first-year students' sense of belonging

Presenting Author:Tamara van Woezik, Radboud University Nijmegen, Netherlands; **Presenting Author:**Petrie van der Zanden, Behavioural Science Institute, Radboud University, Netherlands; **Presenting Author:**Paulien Meijer, Radboud University Nijmegen, Netherlands

This study explores the dynamic nature of sense of belonging in first-year students. The research questions are 1) How do students see and describe their development of sense of belonging during the first semester at university? 2) Which experiences or moments are crucial in this development? Semi-structured interviews with techniques such as storyline and metaphors were conducted with 11 first-year students. Thematic analysis was used to analyze the data.
Results indicate that the development of sense of belonging can be either gradual or fluctuating. Moreover, students can have varying interpretations of seemingly similar situations, depending on their motives (e.g. study content, social connectedness or personal development). This study provides more insight in the dynamic nature of sense of belonging, this can inform further research as well as interventions from teachers and universities.

Changing belonging – a longitudinal exploration of how first-year sense of belonging is shaped

Presenting Author:David Gilani, Middlesex University, United Kingdom

Despite the acceptance of belonging as fluid, most existing research investigates belonging as a static phenomenon. This mixed-methods paper addresses this gap by taking a longitudinal approach, tracking changes in belonging over students' first academic year. 101 new undergraduates at two English universities completed a series of online diaries and surveys about their sense of belonging. Linear regression models were utilised to analyse changes in survey and sentiment-coded online diary data. Students' sense of belonging decreased throughout the first academic year on average and was statistically lower for first- generation students. Students who had participated in a belonging workshop had more constant belonging scores. Reflective thematic analysis of the online diaries further explores these changes. Students recognise the importance of authenticity and taking action to engage, but also vocalise factors outside their control. Practical recommendations about how to have conversations with students about dynamic belonging are included.

Unravelling the Roots of Belonging and Authenticity: A Qualitative Study of Students' Perspectives

Presenting Author:Anne-Roos Verbree, University Medical Center Utrecht, Netherlands; Co-Author:Leoniek Wijngaards-de Meij, Utrecht University, Netherlands; Co-Author:Gönül Dilaver, University Medical Center Utrecht, Netherlands; Co-Author:Marieke van der Schaaf, University Medical Center Utrecht / Utrecht University, Netherlands

Students' sense of belonging and authenticity are important for multiple student outcomes in higher education. Our study aims to understand what shapes belonging and authenticity from the student perspective. The research questions are: How do students experience sense of belonging and authenticity? What factors influence students' belonging and authenticity? How has their sense of belonging developed over time? In-depth interviews were conducted with a diverse sample of twenty-one Dutch undergraduate students. Data analysis was done employing reflexive thematic analysis. Students had very different experiences, ranging from experiencing a weak to a strong sense of belonging and/or authenticity and from a positive to a negative development over time. Students mentioned many factors that shaped their belonging and authenticity. Our findings can inform teachers and practitioners within higher education how to foster students' belonging and authenticity, which are crucial for student achievement and their broader functioning within higher education and beyond.

A critical analysis of the dominant discourses around student sense of belonging

Presenting Author:Edward Venn, University of Leeds, United Kingdom; Co-Author:Karen Burland, University of Leeds, United Kingdom

This paper presents findings from a project exploring the 'dominant discourses' of sense of belonging: the ways in which the scholarly literature represents, models, and measures sense of belonging. Drawing on a large-scale systematic review of recent (2017-2023) literature on belonging (n=890), we will demonstrate how the literature is dominated by particular conceptual approaches to sense of belonging and measurement tools. When taken as evidence of the existence of a 'dominant discourse' around sense of belonging, we argue that such approaches provide constraints on how belonging is understood more widely

within pedagogical practice and institutional strategies. We argue that this discourse significantly limits the opportunities for students to understand themselves and their own experiences of belonging. The presentation ends with discussion of how students might be empowered to take ownership of their belonging as equal partners in institutional discourse around belonging.

Paper Session III

27 September 2024 09:00 - 10:30
Room 5.2 La Vie - Meeting Center
Oral Paper Presentation
Higher Education, Motivational, Social and Affective Processes, Teaching and Teacher Education

Paper Presentation Session 11: Professional Development and Assessment

Keywords: adaptive learning, challenge-based learning, educational development, evidence-based teaching, learning analytics, mixed methods, qualitative methods, quantitative methods, research-based teaching, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education
Chairperson: Velibor Mladenovici, West University of Timisoara, Romania

The role of classroom teaching practices on academic success: validation of an observation protocol
Keywords: learning analytics, quantitative methods, research-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Justine Jacquemart, UCLouvain, Belgium; **Presenting Author:**Mikaël De Clercq, Université catholique de Louvain (UCL); Académie de Recherche et de l'Enseignement Supérieur (ARES), Belgium; Co-Author:Benoit Galand, Université catholique de Louvain (UCL), Belgium

There is a growing interest in learning environments in higher education (HE) research, but detailed analyses of the effects of classroom teaching practices on academic success are still scarce. Moreover, a convincing theoretical model of HE teaching practices and a reliable observation tool are not available yet. The aim of this study is to develop and test an observation tool for measuring and describing teaching practices in HE. In addition, preliminary analyses on the associations between dimensions of teaching practices and student achievement were performed. Ninety-six teachers were observed during lectures, and the results of 5.208 students from 18 teachers were collected. The results support the psychometric properties of the tool. The results will be discussed with regard to the role of teachers in student's success in HE and to future perspectives to better address this role in further research.

The impact of university teachers' passion for their profession on their relational wellbeing
Keywords: educational development, mixed methods, quantitative methods, teaching innovation or innovative teaching practices
Presenting Author: Tanya Chichekian, Université de Sherbrooke, Canada; Co-Author:Marilou Bélisle, Université de Sherbrooke, Canada

Passion in higher education emerges as a complex interplay involving teaching, research, and academic responsibilities. Contrasting with the traditional perception that emotional engagement receives little attention in academia, research informed by the Dualistic Model of Passion highlights passion's vital role in this domain. This study pursued two main goals: (1) to understand how university professors express and demonstrate their passion for teaching, and (2) to examine how passion for teaching and passion for the discipline influence faculty members' quality of interpersonal relationships and their ability to provide social support to students. Analysis resulted in the identification of three distinct clusters, each representing varying levels of passion for teaching and the discipline. Subsequent analysis indicated significant differences in relational and social support across these clusters. These insights underscore the importance of considering how passion in academia is influenced by the culture within academic institutions, potentially affecting the development of professional identity.

The role of tensions in professional learning: in-depth interviews with novice university teachers
Keywords: challenge-based learning, educational development, qualitative methods, transformative learning
Presenting Author: Marije Eradus, University of Amsterdam, Netherlands; Co-Author:Loes de Jong, University of Amsterdam, Netherlands; Co-Author:Natalie Pareja Roblin, University of Amsterdam, Netherlands; Co-Author:Monique Volman, University of Amsterdam, Netherlands

Novice university teachers face many challenges and often have to perform new tasks, without any formal preparation or education in teaching. The initial teaching period can be stressful and uncertain, but can also provide learning opportunities. Although previous research in primary and secondary education highlights the importance of tensions for teachers' professional learning, research on tensions in higher education is scarce and little is known about how teachers learn from tensions. This study explored what tensions novice university teachers experience and how they learn from them. Data were collected through semi-structured in-depth interviews with 15 novice university teachers. Results show that tensions are concerned with different themes (e.g., specific teaching tasks) and relate to different levels. Learning from tensions is reflected in developing specific knowledge, skills and attitudes through engaging in learning activities (e.g., reflecting). Insights from this study can contribute to better support for novice university teachers.

Where Experience Makes a Difference: Teachers' Judgment Accuracy and Diagnostic Reasoning
Keywords: adaptive learning, educational development, evidence-based teaching, research-based teaching
Presenting Author: Tina Seidel, Technische Universität München, Germany; Co-Author:Elisabeth Bauer, Technische Universität München, Germany

This study examines whether experienced teachers are better than novices at accurately assessing student learning characteristic profiles due to their greater experience and more refined diagnostic reasoning. We compare experienced (n = 19) and novice (n = 24) mathematics teachers' abilities to diagnose student characteristic profiles (strong, struggling, overestimating, underestimating, uninterested) based on observable cues in lesson videos. Results show experienced teachers outperform novices in judgment accuracy. Epistemic network analysis reveals experienced teachers establish more connections between various cues, both surface-level (e.g., hand-raising behavior) and deep-level (e.g., interest in the subject), enhancing their diagnostic reasoning. This suggests experienced teachers develop more comprehensive and robust reasoning skills compared to novices. The findings underscore how professional experience influences teachers' diagnostic abilities and the importance of this in teacher training.

Paper Session III

27 September 2024 09:00 - 10:30
Room 5.7/ 5.8 La Vie - Meeting Center
Oral Paper Presentation
Assessment and Evaluation, Higher Education

Paper Presentation Session 12: Collaborative Learning and Peer Assessment

Keywords: digital learning, educational development, evidence-based teaching, learning analytics, mixed methods, qualitative methods, quantitative methods, research-based teaching, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education, SIG 17 - Methods in Learning Research
Chairperson: Irene Douwes-van Ark, University of Groningen, Netherlands

Insights from a multi-method assessment of collaborative engagement in student groups
Keywords: learning analytics, mixed methods, qualitative methods, quantitative methods
Presenting Author: Loris Jeitziner, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland; Co-Author:Lisa Paneth, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland; Co-Author:Oliver Rack, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland; Co-Author:Dirk Wulff, Max-Planck-Institut für Bildungsforschung, Germany; Co-Author:Carmen Zahn, University of Applied Sciences Northwestern Switzerland, Switzerland

We investigate the Quality of Collaborative Group Engagement (QCGE) in Computer-Supported Collaborative Learning (CSCL), employing a multimethod

approach. Analyzing 38 triad groups, the study combines advanced methods such as video analysis (verbal and nonverbal behavior) self-assessment, trained observer ratings, and natural language processing (NLP). The results produced key insights into QCGE. First, the observer ratings and self-assessments exhibited limited variance and considerable skewness in most QCGE dimensions, significantly limiting their usefulness. Second, nonverbal behaviors and linguistic markers extracted using NLP showed small to moderate correlations with QCGE ratings, suggesting opportunities for measuring QCGE in an automatized fashion. Our study emphasizes the importance of multimethod approaches for understanding QCGE and highlights a potential to refine these methodologies using artificial intelligence to increase the accuracy and reliability of QCGE assessment.

From feedback compliance to feedback literacy: Peer and self evaluation during a capstone project
Keywords: digital learning, qualitative methods, teaching innovation or innovative teaching practices, transformative learning
Presenting Author: Marion Blumenstein, University of Auckland, New Zealand

Student peer review can provide learners with important academic and professional skills for lifelong learning (Reddy at al., 2021). Therefore, peer to peer learning and feedback are widely-integrated educational approaches in undergraduate education. However, challenges in supporting effective teamwork skills remain, particularly the development of students' feedback literacy. Using an educational design research approach this study explores the student perception of self- and team member evaluation of contributions to task completion. To support student agency during a high-stakes science capstone project web-based peer review processes were embedded into the assessment design. Focus group and questionnaire data show that students generally agree that peer feedback should be an integral part of any group work. However, summative feedback can result in students gaming scores and feedback compliance. The pedagogical intent of peer evaluations and influencing factors that can benefit or hamper the development of students' feedback literacy.

Exploring the impact of anonymity in peer assessment on student social dynamics and preferences
Keywords: evidence-based teaching, qualitative methods, quantitative methods, teaching innovation or innovative teaching practices
Presenting Author: Juan Fraile, Universidad Francisco de Vitoria, Spain; Co-Author:Meritxell Monguillot, Department of Education, Institut Nacional d'Educació Física de Catalunya (INEFC), Universitat de Barcelona, Spain; Co-Author:Carles González-Arévalo, Department of Education, Institut Nacional d'Educació Física de Catalunya (INEFC), Universitat de Barcelona, Spain; Co-Author:Paula Lehane, Dublin City University, Ireland; Co-Author:Ernesto Panadero, Dublin City University, Ireland

This research investigates the influence of anonymity in peer assessment (PA) on social-affective factors and student preferences in a higher education context. Utilizing a quasi-experimental design contrasting anonymous and non-anonymous PA, the study involved 177 second-year students. It utilized self-report tools to gauge social variables related to PA and open-ended questions for deeper insight into student perspectives. Key findings show no notable differences in perceived fairness, attitude, peer pressure, or discomfort between groups. Nonetheless, a significant preference for anonymous PA was observed. The study highlights the complexity of student perceptions in PA, suggesting anonymity increases comfort without significantly affecting fairness or peer pressure perceptions, underscoring the need for tailored approaches in PA implementation.

Student Partnership in Practice - Structures, Interactions, Perceptions
Keywords: educational development, mixed methods, research-based teaching, teaching innovation or innovative teaching practices
Presenting Author: Hannah Mülder, Faculty of Education, University of Oslo, NO, Norway; Co-Author:Rachelle Esterhazy, University of Oslo, Norway; Co-Author:Tone Dyrdal Solbrekke, Faculty of Education, University of Oslo, Norway

Student involvement has become a sign of quality in policy and research within Higher Education. While the call for more student involvement appears relatively straightforward, it remains less clear how it is enacted in practice. We explore student partnership as a practice across different contexts and the impact these partnerships have on students' individual development and the initiatives they work for. Using a focused strategic ethnographic approach we conduct a social network analysis and qualitative analyses on observations of meetings and interview data in a Centre for Excellence in Education in Norway. We find that student partnership practices are localized to the project team. They depend on the collaborators' constellations. Students consistently navigate being students and employees of the university in interaction with their collaborators and other students. Concluding, we investigate student partnerships through an integrated lens to support practitioners - students, academics and administrators in developing their partnership practice.

Paper Session III

27 September 2024 09:00 - 10:30
Room 5.3 La Vie - Meeting Center
Oral Paper Presentation
Higher Education, Learning and Social Interaction

Paper Presentation Session 13: Potentials and Challenges of Methodological Approaches in Educational Research

Keywords: adaptive expertise, adaptive performance, educational development, evidence-based teaching, mixed methods, qualitative methods, quantitative methods, teaching innovation or innovative teaching practices
Interest group: SIG 04 - Higher Education, SIG 17 - Methods in Learning Research
Chairperson: Freija ter Heegde, University Utrecht, Netherlands

First validity study of the Field Practice Self-Efficacy Questionnaire (FPSEQ) for student teachers
Keywords: educational development, evidence-based teaching, quantitative methods, teaching innovation or innovative teaching practices
Presenting Author:Tine Nielsen, UCL University College, Denmark

The Field Practice Self-Efficacy Questionnaire (FPSEQ) was developed to target the *specific* teacher and teaching-related practices that student teacher may doubt they have the abilities and skills to engage in or enact while in field practice. Data were collected from first year student teachers for a first validity study and investigation of the psychometric properties of the seven subscales in the 42-item FPSEQ (N = 303). Students completed the FPSEQ either immediately prior to any field practice (66,7%) or after a period of time with a school visit every week and just prior to the first full time placement (33.3%). Analyses were conducted with Rasch and graphical loglinear Rasch models. Two items were eliminated. Two subscales fitted pure Rasch models. In the remaining five subscales, one had an item that functioned differentially, four had 2-3 locally dependent items, reliability was above 0.70 for five subscales, targeting was acceptable to excellent.

A Realist Evaluation to Study Adaptive Expertise Development in Work-based Learning Environments
Keywords: adaptive expertise, adaptive performance, educational development, teaching innovation or innovative teaching practices
Presenting Author: Wietske Kuijer, HAN University of Applied Sciences, Netherlands; **Presenting Author:**Carla Oonk, Wageningen University, Netherlands; Co-Author:Loek Nieuwenhuis, HAN University of Applied Sciences, Netherlands; Co-Author:Lia Fluit, Radboud University Medical Center, Netherlands

Higher Education (HE) professionals face rapidly evolving challenges requiring adaptive expertise (AE). Work-based learning offers a promising way to develop AE, though little is known about the underlying working mechanisms for AE development. This paper presents a multi-institutional realist evaluation conducted across 11 work-based cases in various HE Institutes in the Netherlands. Realist evaluation focuses on understanding 'what works, for whom, in what circumstances, how, and why?' and is a promising methodology for studying complex interventions. We co-designed and implemented a realist evaluation including realist reviews and mixed methods within-case and cross-case studies. The finding suggest that to foster AE in HE work-based settings, it is essential to establish a complex, dynamic, and authentic learning environment that encourages student autonomy over work tasks. Our study not only advances understanding of AE development in work-based learning environments, but also underscores the importance of the realist evaluation methodology in HE research.

Why qualitative methods do not explain the processes behind a quantitative effect
Keywords: educational development, mixed methods, qualitative methods, quantitative methods

Presenting Author: Judith Schoonenboom, University of Vienna, Austria

A common statement in the mixed methods literature is that quantitative methods can be used to determine whether a factor or an intervention has an effect, whereas qualitative methods can reveal the process behind this (absence of an) effect. In my presentation, I will argue that this statement is problematic. Instead of showing the processes behind a quantitative result, qualitative methods often show something else. In my presentation, I will illustrate this point using a real- world example from higher education research. My second example will illustrate how qualitative data can be used to investigate a quantitative finding of no effect more productively than by revealing the processes behind it.

The Boundary Specification Problem 35 Years On
Keywords: educational development, mixed methods, qualitative methods, quantitative methods

Presenting Author: Dominik E. Froehlich, University of Vienna; New Design University, Austria; Co-Author:Stephanie Smith, Boston University School of Medicine, United States

This paper presentation addresses the enduring challenge of boundary specification in social network analysis, a critical yet often overlooked issue since its identification by Laumann, Marsden, and Prensky in 1989. We revisit this metatheoretical problem, emphasizing its implications for the validity and reliability of research findings. Through a synthesis of historical discourse and recent advancements, we explore the debate between "lumpers" and "splitters," and the nominalist versus realist perspectives on network boundaries. Our analysis highlights the underestimation of this problem's impact on research and advocates for a systematic, mixed methods approach to more accurately define and understand social networks. We call for renewed attention to boundary specification, suggesting that methodological innovations and theoretical clarity are essential for advancing network research and achieving a deeper, more nuanced understanding of social networks.

Paper Session III 4

27 September 2024 09:00 - 10:30
Room 4.7 / 4.8 La Vie - Meeting Center
Oral Paper Presentation
Higher Education, Motivational, Social and Affective Processes

Paper Presentation Session 14: Students' Attitudes, Agency, and Motivation

Keywords: adaptive expertise, adaptive learning, adaptive performance, educational development, evidence-based teaching, mixed methods, qualitative methods, quantitative methods, sustainability, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education

Chairperson: Mònica Feixas, Zurich University of Teacher Education , Switzerland

Success in HE: developing students' motivation and agency
Keywords: adaptive expertise, educational development, mixed methods, qualitative methods

Presenting Author: Zsófia Frányó, Budapest Business University, Hungary; Co-Author:Boglárka Szijártó, Budapest Business University, Hungary

Success in education today is about building curiosity, motivation, and agency of students, how can instructors motivate learners through their commitment. This study explores the different conceptualizations of the instructors regarding their goals, missions and challenges they face by thematic analysis of interviews at a university in Central Europe. These concepts are compared to students' goals, expectations, motivation, and agency (data collected by questionnaires at the same institution), to identify the matches and gaps of the perceptions of the parties. Findings reveal that beside helping students to develop their competencies, increasing their motivation and agency are parts of the conceptualised role of the academics. The majority of students perceive their increasing interest during the first year of university and consider the instructors' impact important. The conclusion of the study is the importance of realisation of changing roles of academics to evoke further reflections and discussions.

Multidimensional student agency in university courses
Keywords: educational development, quantitative methods, teaching innovation or innovative teaching practices, transformative learning

Presenting Author:Päivikki Jääskelä, University of Jyväskylä, Finland; Co-Author:Elina Vaara, University of Jyväskylä, Finland; Co-Author:Maarit Arvaja, University of Jyväskylä, Finland; Co-Author:Asko Tolvanen, University of Jyväskylä, Finland; Co-Author:Anna-Maija Poikkeus, University of Jyväskylä, Finland

The study aimed, first, to examine the factorial structure of the revised Agency of University Students Scale (AUS-R, Resources, Stances, and Action; Authors), and, second to analyse the association between the AUS-R Resources subscales and student reports of pedagogical practices in their course. In addition, we examined the relationship between the Agency-R Resources subscales with the SEI subscale (Appleton et al., 2006; Virtanen et al., 2017) measuring students' study engagement via future aspirations and goals. Confirmatory factor analyses for the data (n = 815) resulted in an acceptable factor model fits for AUS Resources (AR), Stances (AS), and Action (AA) Scales. Statistically significant correlations (mostly 0.3 - 0.6) between the AUS-R AR, AS and AA Scales, and those between the AUS-R Scale and the SEI subscale indicated that the constructs are distinct but associated with each other. Associations between AUS resources and some of the course practices were found.

Myths in and about Sustainability Education: A Scoping Review
Keywords: educational development, evidence-based teaching, mixed methods, sustainability

Presenting Author: Stefan T. Siegel, University of St.Gallen, Switzerland

While vibrant research on educational myths (e.g., de Bruyckere et al., 2020) and sustainability education (e.g., Jones et al., 2010) exists in general, the field and phenomenon of myths in and about sustainability education (MYTHSE) remain untapped. Accordingly, this preregistered scoping review (PRISMA-ScR; Peters et al., 2021), aimed to map the existing research. Data was sourced from Scopus, Web of Science, ERIC, and PsycINFO via search terms (app. 1) and eligibility criteria (app. 2). Publications were screened (2 independent screeners) in COVIDENCE. Data analysis entailed descriptive statistics, and content analysis for thematic assessment of relevant articles. Preliminary findings highlight gaps in literature directly addressing MYTHSE, with most studies focusing on general educational and psychological misconceptions. Few publications touch on adjacent concepts of sustainability and environmental education. This review, the first of its kind, points to research gaps and the necessity of a research agenda to further understand and demystify MYTHSE.

Students' attitudes towards learning French as a Medium of Instruction in higher education
Keywords: adaptive learning, adaptive performance, educational development, mixed methods **Presenting**

Author: Ali Goksu, Maastricht University, Netherlands

There has been a growing interest in the use of English as medium of instruction(EMI) in higher education. English, despite being widely accepted as an international language at universities, is also perceived as a potential threat to the development of scientific domains in local languages. Other languages such as Chinese, French, and Spanish as mediums of instruction receive limited attention at universities compared to English. This research explored motivational perspectives and attitudes of international students towards learning French as medium of instruction(FMI) and additional language in Belgium. 140 international university students participated in this study. Data were collected through a questionnaire and semi-structured interview. The results revealed that personal interest and specific reasons were primary motivational factors to learn and use French at higher education. The results also offered valuable insights to shed lights on the use of English or other local languages as medium of instruction in higher education.

Paper Session III

27 September 2024 09:00 - 10:30
Room 5.1 La Vie - Meeting Center

Oral Paper Presentation
Higher Education, Lifelong Learning

Paper Presentation Session 15: Argumentation and Critical Thinking Skills

Keywords: AI in higher education, challenge-based learning, digital learning, educational development, evidence-based teaching, learning analytics, mixed methods, qualitative methods, quantitative methods, research-based teaching, sustainability, teaching innovation or innovative teaching practices
Interest group: SIG 04 - Higher Education, SIG 17 - Methods in Learning Research
Chairperson: Barbara Getto, Zurich University of Teacher Education , Switzerland

Epistemological tenets underlying biomedical students' scientific writing
Keywords: educational development, evidence-based teaching, qualitative methods, research-based teaching
Presenting Author: Annelies Pieterman-Bos, Utrecht University, Netherlands; Co-Author:Cathelijne Reincke, UMC Utrecht, Netherlands; Co-Author:Rens van de Schoot, Utrecht University, Netherlands; Co-Author:Marc van Mil, UMC Utrecht, Netherlands

We have characterised epistemological tenets that are implicitly conveyed and constructed through biomedical students' scientific writing. By teaching students to adhere to certain rules and conventions in article writing, we also convey the epistemological tenets underlying these discursive practices. We define epistemological tenets as notions about the nature, origin and limits of knowing and knowledge conveyed and constructed through language use. They do not necessarily equate with the writer's or speaker's explicit views of the nature of science. However, they might unintentionally bring about or strengthen uninformed views. Prominent epistemological tenets that we constructed from students' writing practices are the notion 1) that data speak for themselves, 2) that research (results) should be impressive and conclusive, 3) that choices in research design and execution of procedures speak for themselves, and 4) that the relationship between scientific knowledge and observations of the natural world is direct.

On the interplay of scientific reasoning and epistemological beliefs of medical and physics students
Keywords: challenge-based learning, digital learning, educational development, quantitative methods
Presenting Author: Anna Horrer, Institute of Medical Education, LMU University Hospital, LMU Munich, Germany; Co-Author:Stefan Küchemann, Chair of Physics Education, LMU Munich, Germany; Co-Author:Jochen Kuhn, Chair of Physics Education, LMU Munich, Germany; Co-Author:Martin Fischer, LMU University Hospital, Institute of Medical Education, Germany; Co-Author:Jan Zottmann, Institute of Medical Education, LMU Klinikum, Ludwig-Maximilians University Munich, Germany

Scientific reasoning skills are vital in higher education. Recent literature calls for valid instruments to assess students' reasoning skills, the acquisition of which can be influenced by individual learning prerequisites such as epistemological beliefs (i.e., the way students think about knowledge acquisition). Therefore, our study focuses on the assessment of scientific reasoning, and the interplay of reasoning skills and epistemological beliefs. Taking into account the study domain, we compared students of medicine (n=36) and physics (n=56), utilizing a scenario-based assessment approach that specifically addressed the reasoning skills *evidence evaluation* and *drawing conclusions* which are related to *Critical Online Reasoning skills*. Additionally, we administered a 30-item questionnaire for the assessment of cross-domain epistemological beliefs. Medical and physics students showed comparable reasoning skills when working on the given scenario. In line with previous research, we found correlations between reasoning skills and epistemological beliefs, with domain-specific differences in epistemological beliefs also evident.

Study program-specific predictions of dropout based on students' individual characteristics
Keywords: AI in higher education, educational development, learning analytics, quantitative methods
Presenting Author: Nicky de Vries, Vrije Universiteit Amsterdam, Netherlands; Co-Author:Belinda Merkle, University of Mannheim, Germany; Co-Author:Martijn Meeter, Vrije Universiteit Amsterdam, Netherlands; Co-Author:Stefan Janke, University of Mannheim, Germany; Co-Author:Mariette Huizinga, Vrije Universiteit Amsterdam, Netherlands

Applying a person-environment fit perspective, this study aimed to predict which students are at risk of dropout within specific study programs, employing previously studied individual characteristics as predictors. Logistic LASSO regression with cross-validation was used to estimate dropout models in one student cohort, and to assess the predictive accuracy in a second cohort. We identified different regression formulas across programs. However, these models were unable to accurately predict dropout. These results indicate that optimal dropout models may be program-specific, but also that the individual characteristics typically used to represent fit, may not be accurate predictors of dropout. Such fit-dropout predictions are currently utilised by higher education institutions to inform orientation tools to support prospective students' decision-making. Our results suggest that the use of such predictions warrants caution. Additional research is needed to understand which variables can inform optimal support for students.

Using the Socio-Scientific Issue Approach to Foster Secondary Students' Argumentation Skills
Keywords: challenge-based learning, mixed methods, sustainability, teaching innovation or innovative teaching practices
Presenting Author: Robbert Smit, University of Teacher Education St.Gallen, Switzerland; Co-Author:Florian Rietz, University of Teacher Education St.Gallen, Switzerland

Socio-scientific issues are open-ended social problems with connections to science (e.g., climate change, gene therapy, or nuclear power). The use of these topics in formal science lessons offers an ideal approach to promoting scientific literacy at secondary level. We have designed a series of seven lessons that aim to build the relevant skills. In the current pre study, 32 pupils form the basis for a mixed-methods analysis with some preliminary results. We measured knowledge, attitudes, digital literacy, and argumentation skills. Unexpectedly, the students showed no growth in knowledge, and there were troubles with reliability of the instruments. Furthermore, we could not assess digital literacy because the number of sources used by the students was not varying. In the final discussion, in one group more socio- but almost no science issues were discussed, while in the other group both issues appeared more equally. These are methodological issues which we would like to discuss.

Symposia

27 September 2024 11:00 - 12:30
Room 5.1 La Vie - Meeting Center
Symposium
Higher Education, Teaching and Teacher Education

Triangulating Eye-Tracking Data: Toward a Multimodal Approach

Keywords: digital learning, educational development, learning analytics, qualitative methods, quantitative methods
Interest group: SIG 17 - Methods in Learning Research
Chairperson: Kateryna Horlenko, Vytautas Magnus University, Lithuania
Organiser: Sylvia Gabel, University of Augsburg, Germany
Discussant: Yizhen Huang, University of Potsdam, Germany

Eye-tracking technology can be implemented during teaching or while watching classroom videos. Its data reveals cognitive and attention-related processes in educational research. However, eye-tracking data is often meaningless without contextual measurements. This symposium aims to strengthen multimethodological approaches by highlighting opportunities to combine and triangulate eye-tracking data with other measurement methods. The first paper combines pre-service teachers' gaze and attitudinal measurements. The findings indicate an attitudinal and visual co-occurrence, with pre-service teachers allocating more attention to their favored student group. The second paper investigates other data sources that influence teachers' gaze during teaching. Here, teacher stress, students' academic skill levels and teacher-student relationship play an important role for the teachers' focus of attention. In the third paper, mobile eye-tracking data is used as an object of reflection. The triangulation of pre-service teachers' gaze data and expert feedback turns out to be a promising

combination to support them in professional development.

Does pre-service teachers' gaze in the classroom reflect their attitudes towards gender?
Presenting Author:Sylvia Gabel, University of Augsburg, Germany; Co-Author:Andreas Gegenfurtner, University of Augsburg, Germany

Teacher attitudes can increase educational disadvantages by lowering expectations for certain student groups. Boys often face more negative attitudes whereas girls tend to be favored by teachers. To better understand these processes, we investigated whether pre-service teachers' attitudes are reflected in their gaze behavior. *N*=105 pre-service teachers watched a classroom video while their gaze was recorded. In addition, they expressed their explicit attitudes toward girls and boys and participated in an implicit association test measuring their unconscious gender attitudes. Findings showed more fixations on girls in the video and more favorable implicit and explicit attitudes toward them. Linking these variables, we found a positive correlation between implicit attitudes and the fixation number. These findings suggest that a positive attitude tends to influence the allocation of attentional resources toward a certain student group. This multi-method approach provides a valuable insight into the underlying processes of the behavioral correlates of attitudes.

Teachers' visual attention and related factors in Grade 1 classrooms using mobile eye-tracking
Presenting Author:Saswati Chaudhuri, University of Jyväskylä, Finland

Teacher professional vision has been investigated using mobile eye-tracking. However, classroom factors influencing teacher noticing has received little attention. Accordingly, teachers' eye movement data from eye-tracking in the form of visual focus of attention during teaching alone would not give much information unless it is combined with other data sources. When teachers' duration of visual attention on students was combined with teacher stress, students' academic skill levels, and teacher-student relationships, some interesting results emerged (Chaudhuri, 2023). Firstly, more stressed teachers gave less individual attention to the students. Secondly, teachers paid more attention to students they characterized as needing more individual support in basic academic skills and to students with low basic academic skills. Thirdly, teachers focused their visual attention on students despite their perceptions of closeness and conflict about the students. Additionally, student's task-avoidant behavior moderated association between teachers' perception of closeness and conflict and teachers' visual focus of attention.

Double feedback for teacher professional vision development in higher education
Presenting Author:Lina Kaminskienė, Vytautas Magnus University, Lithuania; **Presenting Author:**Kateryna Horlenko, Vytautas Magnus University, Lithuania; **Presenting Author:**Vaida Jurgilė, Vytautas Magnus University, Lithuania

Teacher professional vision development in the higher education context is important in the transition to a more student-centred teaching. The role of expert observation and feedback for novice teacher professional vision development has been so far not investigated. This study combined the data from classroom mobile eye tracking, video-supported reflection, and first-perspective observation by an expert to explore novice teachers' attentional and teaching patterns when leading a collaborative student activity in the lecture. 4 novice-expert dyads took part in the study, where novice teacher first-person recording with gaze overlay from the lecture was interpreted by the novice teachers themselves and teacher experts. The preliminary results indicate that different profiles of the novice teachers could be identified, with variations between the novice personal and external expert perspectives. The results highlight the potential of combining novice teacher stimulated reflection with expert feedback for professional vision development.

Symposia

27 September 2024 11:00 - 12:30
Room 5.7/ 5.8 La Vie - Meeting Center
Symposium
Higher Education

University teachers' regulation, self-efficacy, teaching approaches and emotions
Keywords: educational development, mixed methods, research-based teaching, teaching innovation or innovative teaching practices
Interest group: SIG 04 - Higher Education
Chairperson: Mari Murtonen, University of Turku, Finland
Organiser: Mari Murtonen, University of Turku, Finland
Organiser: Liisa Postareff, HAMK University of Applied Sciences, Finland
Discussant: Miriam Hansen, Goethe-Universität Frankfurt, Germany

Higher education teachers face increasing demands since they need to cope with heterogeneous student groups, growing numbers of students and requirements to adopt new teaching approaches and contents, to name a few challenges. The symposium discusses how higher education teachers' professional development and wellbeing are related to the teachers' regulation skills (both self- and collaborative regulation), self-efficacy and teaching approaches. These aspects are necessary for future teachers to cope in the uncertainty and develop their pedagogical expertise both individually and in collaboration with their colleagues. The impact of the pedagogical culture in their workplace on teacher learning and innovativeness will also be examined. The four studies employ various methodologies and data, such as interviews and survey data, as well as video-recorded data and physiological measures, to provide diverse views on higher education teachers' work and professional development.

How do teachers regulate their learning by creating, navigating and relating
Presenting Author:Indira Day, Utrecht University, Netherlands; Co-Author:Tim Stevens, Eindhoven University of Technology, Netherlands; Co-Author:Remco Coppoolse, Utrecht University of applied science, Netherlands; Co-Author:Idwer I Doosje, Universiteit Utrecht / Hogeschool Utrecht, Netherlands; Co- Author:Perry den Brok, Wageningen University & Research, Netherlands; Co-Author:Frans Prins, Utrecht University, Netherlands; Co-Author:Jan Vermunt, Eindhoven University of Technology, Netherlands

Programmes that focus on supporting and promoting teachers' capacities for educational innovation in HE often provide opportunities to focus on teachers' own learning goals and educational context and to shape their own learning process. The self-regulated learning (SRL) of teachers is essential in these programs. This study connects models on SRL and teacher professional learning and development to study how teachers use covert, behavioural and environmental SRL to connect learning experiences in a PD-programme and in practice. Investigating thirteen learning moments of seven participants in a programme aimed at innovative capacities indicates all three types of SRL are present. The majority of teachers used reflection within covert SRL to guide their learning. In behavioural and environmental SRL, teachers guided their learning by taking strategic actions. We discuss how covert SRL involves relating experiences from both settings, behavioural SRL involves creating experiences in one setting and environmental SRL involves navigating settings.

Exploring university teachers' teaching approaches and self-efficacy beliefs
Presenting Author:Irene Douwes-van Ark, University of Groningen, Netherlands; Co-Author:Marjon Fokkens-Bruinsma, University of Groningen, Netherlands; Co-Author:Jan Folkert Deinum, University of Groningen, Netherlands; Co-Author:Hanke Korpershoek, University of Groningen, Netherlands

University teachers' teaching approaches are important since they are related to students' learning. Self-efficacy beliefs are presumably required for the uptake of effective teaching approaches, in which teacher-centered and student-centered approaches can simultaneously be included. We aim to identify different teaching approaches profiles, and subsequently provide insight into differences in teachers' self-efficacy beliefs across these profiles. In total, 312 university teachers filled out a survey entailing the Approaches to Teaching Inventory (ATI) and the UNIversity Teacher Self-efficacy Scale (UNITSS). Latent profile

analysis was used to identify teaching approaches profiles. An analysis of variance was used to investigate differences in self-efficacy beliefs. We found four different teaching approaches profiles, from which three included moderate or high student-centered approaches. The findings further demonstrate that teachers who include student-centered teaching approaches also have higher levels of self-efficacy beliefs. These findings will support the identification of different university teachers' profiles.

University teachers' opportunities for collaborative pedagogical regulation

Presenting Author:Emmi Saariaho-Räsänen, University of Turku, Finland; Co-Author:Mari Murtonen, University of Turku, Finland; Co-Author:Jere Riekkinen, University of Turku, Finland; Co-Author:Henna Vilppu, University of Turku, Finland

Higher education teachers' regulation skills of their own learning play a central role in the development of their pedagogical expertise, but there exists a gap in the literature on teachers' collaborative pedagogical regulation. This study explores teachers' possibilities for collaborative regulation of pedagogical issues. Three open-ended questions of 181 teachers were analysed with a data-driven content analysis. Preliminary results show that the teachers could be divided into five subcategories in terms of their ways and possibilities to participate in developing teaching, varying from active participation to almost non-existing participation or opportunities to influence. Furthermore, the sense of belonging in their working community resonated with the possibilities to participate in developing teaching. Accordingly, the pedagogical culture of the community seems to have a direct influence on teachers' possibilities for collaborative regulation. The results concerning the more fine-tuned forms of collaborative regulation will be presented in the conference.

The relations between higher education teachers approaches to teaching, emotions and arousal

Presenting Author:Liisa Postareff, HAMK University of Applied Sciences, Finland; Co-Author:Anna Parpala, University of Helsinki, Finland; Co-Author:Petri Nokelainen, Tampere University, Finland; Co-Author:Heta Rintala, Häme University of Applied Sciences, Finland; Co-Author:Milla Räisänen, University of Helsinki, Finland; Co-Author:Anna Wallin, University of Tampere, Finland; Co-Author:Merly Kosenkranius, Häme University of Applied Sciences, Finland

The study analyses the relations between higher education teachers (N=46) approaches to teaching, emotions and arousal. From video-recorded teaching situations, we detected episodes with high, low and varying arousal levels, as measured through a smart ring capturing electrodermal activity. Soon after the vide-recoded teaching situations, the teachers participated in a guided reflection session, which followed the critical incident technique. The teachers were asked to describe what happened in high and low arousal teaching episodes and which emotions they experienced during those episodes. Preliminary findings
indicate the high arousal episodes were often related to cognitively challenging situations and negative emotions, while low arousal episodes were often related to relatively easy and undemanding situations, as well as both positive and negative deactivating emotions. Interactive teaching was mostly related with lower arousal compared to lecturing, but both high and low arousal levels were detected during lecturing.

Symposia

27 September 2024 11:00 - 12:30
Room 5.3 La Vie - Meeting Center
Symposium
Higher Education

Research learning and teaching: Higher Education experiences to improve students' research skills

Keywords: evidence-based teaching, mixed methods, qualitative methods, quantitative methods, research-based teaching, teaching innovation or innovative teaching practices
Interest group: SIG 17 - Methods in Learning Research
Chairperson: Carla Quesada-Pallarès, Universitat Autonoma de Barcelona, Spain
Organiser: Carla Quesada-Pallarès, Universitat Autonoma de Barcelona, Spain
Discussant: Andreas Gegenfurtner, University of Augsburg, Germany

This symposium presents four different teaching innovations and research aiming at developing research learning and teaching higher education students' experiences. Little is known about the best learning and teaching activities on research; thus, sharing these various pieces of evidence improves the scientific knowledge teachers have so far. Experiences in Dublin (Ireland), Turku (Finland), Terrassa (Spain), and various Global settings, this symposium shows that research is needed to explore which are the flaws in teaching and learning about research at higher education settings. Basically, activities that help students learn by doing both in classroom or internship settings, and along with others, are useful so students understand the real implications of gaining research competence. Moreover, unrevealing the epistemic understanding and research skills promotes students' scientific thinking when facing real life situations of their professional practice. Practical and scientific implications of these experiences will be discussed.

Student Teacher Researchers: Developing students' and peers' work evaluation and improvement

Presenting Author:Aimie Brennan, Marino Institute of Education, Ireland

In countries where student outcomes are high, teacher education is required to be research driven and "capable of applying research to their work in a reflective way" (Sahlberg et al., 2012, p.15). The Student Teacher Educational Research (STER) project was developed in response to the lack of opportunity for students to reflect on the application of their research, and the potential risk of early disengagement with research. Since its inception, STER has taken a partnership approach to teacher-researcher development, positioning students as partners with responsibility for their own learning, and with valuable expertise to contribute. Drawing on mixed method data from 45 participants in the STER project since 2018, this paper focuses on partnership as a methodology for increasing student engagement with research skill development. This paper unearths possibilities associated with taking a partnership approach in ITE, and the tensions between policy and practice which need to be addressed.

Teaching University Students to Think Scientifically: Epistemic Understanding and Research Skills

Presenting Author:Heidi Salmento, University of Turku, Finland; Co-Author:Mari Murtonen, University of Turku, Finland; Co-Author:Tuike Iiskala, University of Turku, Finland

A fundamental aim of university education is to produce graduates who are able to use scientific knowledge when working at expert positions in the future. Regardless of the discipline, it is important for students to understand the nature of scientific knowledge and the process of how it is produced. These are fundamental elements of scientific thinking. To deepen our understanding about the process of learning to think scientifically, we conducted focus group interviews in groups of 3-4 university teachers (N=15) representing different disciplines. The analysis revealed four phases in learning to think scientifically: 1) Understanding the difference between scientific knowledge and knowledge in general, 2) Understanding the basics of scientific research process and research methodology, 3) Figuring out the idea of scientific way of thinking, and 4) Learning to express scientific thinking. The development of both epistemic understanding and research skills was found to be fundamental for all the phases.

Addressing evidence-based practice competencies in EUIT undergraduate nursing students' internships

Presenting Author:Helena Roig-Ester, ESCOLA UNIVERSITARIA INFERMERIA I TERÀPIA OCUPACIONAL TERRASSA (EUIT), Spain; Co-Author:Nuria Codern, EUIT, Spain; Co-Author:Guadalupe Sánchez, EUIT, Spain; Co-Author:Marta Gorina Cañaveras, EUIT, Spain; Co-Author:Maria José Jiménez, EUIT, Spain

Universities must train future undergraduate nurses with a solid competence in the implementation of evidence-based practice (EBP) (Zabalegui, 2017), using the internship periods to do so. EBP is defined as the conscious, explicit and judicious use of the best available clinical scientific evidence to make decisions about the individual care of each patient (Ruzafa, et al. 2016). This paper aims at describing the process of creating and implementing the work required by undergraduate nursing students based on EBP at the University School of Nursing and Occupational Therapy of Terrassa (EUIT, Spain). We used a descriptive and reflexive approach of a teaching and learning improvement experience with 153 students piloting the new practicum programs. Results point out that most students are capable of implementing EBP in their practice and to reflect on it. But few are not, which makes us think that the assignment needs to be revisited.

Publish or Perish? Research competence key to understand doctoral students' tendency to publish
Presenting Author: Carla Quesada-Pallarès, Universitat Autònoma de Barcelona, Spain; Co-Author:Paulina E. Robalino, PAFIU research group, Spain; Co- Author:Sarah Marrs, Virginia Commonwealth University, United States

Literature establishes that doctoral students engaging in research activities have higher perceived research competence. However, no evidence publishing academic articles improves this competence. This study explores the relationship between the PR-Comp's research competence dimensions and the academic publishing experience of doctoral students. Using a non-probabilistic sample of 456 doctoral students, we analyzed the PR-Comp structure and compared those who have published (Group 2) and those who have not (Group 1). Network analysis revealed a highly interconnected structure with key dimensions like "Knowledge" and "Methods" playing central roles. Group 2 demonstrated denser connectivity and higher centrality values, particularly in "Findings" and "Knowledge." While "Methods" shifted in centrality, it consistently served as a connector. These findings provide valuable insights for understanding research competency development among doctoral students and preparing actions to improve it.

Symposia

27 September 2024 11:00 - 12:30
Room 4.7 / 4.8 La Vie - Meeting Center
Symposium
Higher Education

Aligning Individual and Organizational Developments in Higher Education in the Context of GenAI

Keywords: AI in higher education, digital learning, educational development, evidence-based teaching, qualitative methods, teaching innovation or innovative teaching practices, transformative learning
Interest group: SIG 04 - Higher Education
Chairperson: Barbara Getto, Zurich University of Teacher Education , Switzerland
Chairperson: Judit Martínez Moreno, Switzerland
Discussant: Helga Dorner, Eötvös Lorand University, Hungary

Societal changes, such as the pandemic or the ongoing digital transformation, pose different challenges to higher education institutions (HEIs). This symposium addresses these challenges by focusing on the implications of Generative Artificial Intelligence (GenAI). The symposium is dedicated to exploring the complex dynamics emerging at different levels of higher education, considering different stakeholders, national contexts, and theoretical backgrounds. Contributions include analyses on the influence of GenAI on academic development in European universities, integration of GenAI across various institutional levels in Zurich HEIs, the impact of GenAI on assessment policies, and analyses of team learning to cope with disruptive developments such as GenAI. The symposium discussion will focus on how empirical research can help HEIs to embed GenAI, as well as to prepare HEIs to cope with upcoming developments with agility and anticipation.

From Disruption to Transformation: A Comparative Case Study of HEIs Response to Generative AI
Presenting Author: Tomas Kaqinari, University of Basel, Switzerland; **Presenting Author:**Peter Bannister, Universidad Internacional de La Rioja, Spain; Co- Author:Ian Sadler, Liverpool John Moores University, United Kingdom

There is limited research on how the GenAI-driven disruption has been responded to by leaders, managersand teachers in higher education institutions (HEIs). While the nature of guidance produced to supportacademics has been considered in research, the role it plays in teaching practice has not. This paper aims toinvestigate how HEIs have responded to the GenAI disruption and to identify the consequences for teachingand assessment practices. Through document analysis and interviews with stakeholders in three distinctEuropean universities in Spain, Switzerland, and the UK, case studies are produced to identify the differentapproaches to the use of AI in assessment and teaching. The findings provide implications for academicdevelopment and recommendations for adapting assessment guidance to support the effectiveimplementation of GenAI in teaching, with the goal of enhancing pedagogy.

GenAI in Higher Education: Bridging Strategy and Practice with an Empirical Systemic Approach
Presenting Author: Barbara Getto, Zurich University of Teacher Education, Switzerland; **Presenting Author:**Judit Martínez Moreno, Zurich University of Teacher Education / University of Zurich, Switzerland

Higher education institutions develop strategies in response to the fast developments brought about bydigitalization, especially related to Generative AI (GenAI) applications such as ChatGPT. In thiscontext it is important that administrators understand the challenges that higher education teachers facein their lessons. However, it is also relevant to understand whether the strategies developed at aninstitutional level are supporting the incorporation of GenAI in the classroom. Therefore, this studyinvestigates the interplay of GenAI implications across three levels: macro (policy, exemplified by theDigitalization Initiative of the Zurich Higher Education Institutions), meso (university strategies), andmicro (university teachers' practices). The aim is to explore the relationship between these levels,especially between the meso and micro level. Employing qualitative methods, expert interviews will beconducted within Zurich Higher Education institutions to assess the motivations behind digitalinitiatives, satisfaction with existing strategies, and the relevance of top-down versus bottom-upapproaches.

Underlying approaches to assessment in AI regulation policies. An international comparative analysis
Presenting Author:Mònica Feixas, Zurich University of Teacher Education, Switzerland; **Presenting Author:**Georgeta Ion, Universitat Autonoma de Barcelona, Spain; **Presenting Author:**Liana Pirovino, Pädagogische Hochschule Zürich, Switzerland

Following the pandemic, universities face the new challenge of generative AI, prompting the development of fresh guidelines despite limited research on its impact, especially in assessments. While genAI advancements stimulate discussions, policies must be implemented thoughtfully in an already strained sector. It is crucial to address the alignment between assessment policies and evidence-based pedagogical practices, as emphasized by McGaughey et al. (2022) and Ion (2023). Our contribution, based on an analysis of assessment policies about the use of GenAI across various national higher education contexts will reveal these dilemmas. Our goal is to examine how these regulations support or hinder current assessment for learning principles, based on a framework developed by Feixas and Zimmermann (2024). Complementary, we will explore from the teacher and academic developer perspective, how such policies may influence curriculum revisions and performance standards and can aid in bridging the gap between theory and practice in academia.

Researching organizational development in higher education - The relevance of team learning
Presenting Author: Franziska Zellweger, Zurich University of Teacher Education, Switzerland; **Presenting Author:**Christine Bieri Buschor, Zurich University of Teacher Education, Switzerland

We emphasise the important role of team learning processes for organizational development to cope with challenging developments such as GenAI in teaching and learning in Higher Education. Which aspects do support team learning? How can teams be a source for educational innovation? In this presentation, insights from interviews and a focus group study are shared in which team learning processes in three Universities of Applied Science in Switzerland are analysed. Results show that team learning is linked to professional development rather than learning at organisational level. Even though diversity is valued as a potential for team learning, challenges that arise from the integration of different perspectives and aspects that hinder team learning are not easily discussed.
Moreover, we reflect on the learnings from this four-year research and development project on how to better align individual, team and organizational learning processes for educational innovation such as recent developments regarding GenAI.

JURE Workshop 1: "I want to share my data. But how?"

Wednesday, 25th of September (16:00 - 17:45; Room 5.7/5.8)

Dr. Jürgen Schneider

Sharing data enables reproducibility, replication, and reuse. It increases trust and facilitates research syntheses. There are many reasons why research funders and journals mandate researchers to open their data. After exploring cultural change towards Open Science, in this workshop we go through options to sharing various kinds of data for different purposes, their conditions, and standards to make data sharing a success.

JURE Workshop 2: "Mixed-methods research in education"

Thursday, 26th of September (14:00 - 15:45; Room 5.7/5.8)

Prof. Dr. Andreas Gegenfurtner & Sylvia Gabel

The workshop on mixed-methods research in education aims to provide doctoral students and junior researchers with a comprehensive understanding of this versatile approach to inquiry. Mixed-methods research combines qualitative and quantitative methods to offer a more holistic perspective, enriching the depth and breadth of educational research endeavors. Through interactive discussions, case studies, and hands-on activities, participants will leave the workshop equipped with the knowledge and skills to design, conduct, and analyze mixed-methods research in the field of education.