# European Journal of University Lifelong Learning

**Learning for Impact in a Changing World**

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# Editorial Board

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# EDITORIAL
# LEARNING FOR IMPACT IN A CHANGING WORLD

**Eva CENDON**
FernUniversität in Hagen, DE

**Wieger BAKKER**
Utrecht University, NL

**Timo HALTTUNEN**
University of Turku, FI

Email: eva.cendon@fernuni-hagen.de

Societal change, whether gradual or disruptive in character, has an impact on the kind of research expertise and knowledge which professional organisations, communities and learners need. At the same time, with their research, expertise and knowledge, universities have their own impact in this changing world. Professionals working in different spheres of society have to continuously develop and adapt their expertise to continue making a societal impact. Universities have - and feel - more and more the responsibility to make their expertise and the results of their research available where it is needed and for those who are in need of it in a more inclusive way, and in so doing they are generating a broad societal impact. With these reflections in mind eucen organized together with Utrecht University on 2nd June 2021 an online Experts Seminar entitled *Learning for impact in a changing world*. With this online Experts Seminar, we also celebrated the 30th anniversary of eucen.
The topic of the Expert Seminar and the celebration of 30 years of eucen were a perfect stimulus to restructure and further develop our eucen *eJournal of University Lifelong Learning* and transform it into the current **European Journal of University Lifelong Learning** for researchers, managers and practitioners. We understand our journal, which has already been published regularly for five years, as an interdisciplinary and cross-sectoral journal that takes the different nature of practices of university lifelong learning (ULLL) as its central focus. This approach provides a forum in which to address policy questions, and for the development of theory and the dissemination of innovative practice in the field of ULLL. Following this understanding, we did some developmental work by broadening the scope of papers to be invited, thereby reflecting the diversity of roles and interests of our readership in university lifelong learning across Europe and beyond.

In the following paragraphs, we will outline the main theme of *Learning for impact* and make a few remarks on where we stand as universities. We will then introduce our approaches to the main theme and the different types of contributions we looked for. Finally, we will present an overview of the structure and content of this issue, that includes the main outcomes of the Expert Seminar. The thematic framework is set by the metaphor of *acting at the agora* elaborated in the opening paper based on the keynote contribution of Marieke van der Schaaf, and *on the future of the societal impact of universities* and the role of UCE in it as addressed in the concluding interview with Mirko Noordegraaf, drawing on insights from his keynote presentation.

## LEARNING FOR IMPACT

While university lifelong learning embraces learning in a very broad sense, including the social, cultural and economic development of communities and the region (EUCEN, n.d.), university continuing education in a narrower sense, or continuing education for professionals, aims at supporting both professionals and adult learners as well as supporting the organisations and the domains in which they work. *Learning for impact in a changing world* highlights the role of university continuing education in enabling professionals to perform in a dynamic societal context to the best of their abilities and throughout their careers. Furthermore, in dealing with a changing environment it is important for professionals and their organisations to be resilient in order to handle the intense dynamics of society and the pressures that come with it. At the same time university continuing education intends to enable professionals to perform in a way that is satisfactory and meaningful for themselves too.

The recent experiences with the Covid-19 pandemic underline the urgency for both professionals and for universities to be resilient and to use their full potential for continuing education to enhance their adaptive capacity and resilience. The pandemic already accelerated calls for more initiatives in this domain, both on the European level and within several sectors (see for instance Pearson, 2020; Van der Graaf *et al.*, 2021; EAEA, 2021; Panteli & Maier, 2021). At the EU Social Summit 2021, held in Porto during the Portuguese EU Presidency, the Council of the EU signed the so called *Porto Declaration* in which the member states underlined the need for unity and solidarity in the fight against the pandemic and reaffirmed to work towards a social Europe. In point 8 of this declaration they state:

> We will put education and skills at the centre of our political action. The green and digital transitions will bring enormous opportunities for European citizens but also many challenges, which will require more investment in education, vocational training, lifelong learning, upskilling and reskilling, so as to stimulate employment transitions towards sectors where there is a growing demand for labour (EU Council, 2021).

University continuing education is about learning as well as about learners: it is about connecting knowledge and insights from research with the professions that apply this knowledge in practice; it is about connecting research on learning with practitioners in learning; and it is about connecting the academic domain with associations of professions and other stakeholders in society (de Viron, 2014). However, universities still have a lot to learn on how to facilitate this impact and how to implement this responsibility into their daily business. To empower professionals, universities need to be more creative in responding to the evolving needs of lifelong learners for expertise, education and training, to prepare them for the challenges of transforming and newly evolving professions. When we look at continuing education practices at universities in Europe, despite many innovative initiatives, the mainstream of activities and programs seem primarily to consist of alternatives for degree programs or of courses building upon earlier obtained degrees. In a way this is surprising. Already in the *European Universities' Charter on Lifelong Learning* from 2008, European universities committed themselves to provide education and learning for a more diverse population of students:

> European universities will respond positively to the increasingly diverse demand from a broad spectrum of students - including post-secondary students, adult learners, professionals who seek to up-grade skills for the workplace, senior citizens taking advantage of their increasing longevity to pursue cultural interests, and others - for high quality and relevant higher education throughout their lifetime (EUA, 2008, p. 5).

Universities still have to learn to increase their impact, to learn how to respond to the demands of professionals and alumni for training and inspiration, to learn how to contribute to the value retention of diplomas in a transforming labour market, to systematically contribute to a knowledge-intensive economy, to strengthen the social impact of research, and to co-create knowledge and deepen initial training in collaboration with social partners.

Hence, they need to work along these three lines: firstly, universities need to expand and diversify their offer of formal and, above all, shorter-term non-formal education for professionals, gaining experience from the full breadth of faculty and interdisciplinary research and expertise in the development of different forms of education for and with different target groups. Secondly, universities need to work on embedding education for professionals in the organization and in work processes as a regular part of their primary process, from the assignment of administrative responsibilities to quality assurance and the organization of support. Thirdly, universities need to work on strengthening knowledge and knowledge circulation about all facets of continuing education. University continuing education is more and more becoming a testing ground. The possibilities for a varied and sometimes hybrid offering of formal and non-formal education are unlimited, and can strengthen the connection of universities with social challenges and the diverse sectors of society (Cendon, Atabarut & Royo, 2021). It is a testing ground that allows universities to transcend the divides between research, education and social impact.

## FUTURE, CHANGE AND PROFESSIONAL PRACTICES

With the above perspective on university continuing education and learning for impact in mind, we looked at different levels, spheres and stakeholders, from the impact of societal change on the labour market and ways professionals learn, to the organization of knowledge circulation, to what it takes to fulfil a meaningful role in this as universities. In order to focus and to structure our analysis we started with focussing on three angles that the reader also will see reflected in the contributions to this issue. The first angle is the *impact of societal change*. What impact does societal change have on professions and professionals? What new performance is demanded from them, what do they need to learn and how can university continuing education adapt to respond to those needs?

The second angle has to do with the *future of education*. Although we cannot predict the future, as universities we can try to look into the seeds of time and prepare ourselves for different conceivable futures of which we see the indications already in the present. What are the new pedagogies we might need, how will innovative and future-oriented teaching and learning take place, and where does the workplace fit in? How can university continuing education function as an innovation laboratory and what do future representations of professional learning look like? How can we support learners to become both adaptive *and* reflective practitioners?

The third and final angle was looking at the impact from the perspective of *professional practices* in university continuing education. Here questions arise about how to organise and embed university continuing education in our institutions. Key in this domain is creating a sustainable relationship between research, university continuing education and professionals' practices – in the public as well as in the private sector.

Starting with this issue of our *Journal* we aim to expand the kinds of papers we include, thereby reflecting the diversity of our members and readership, their perspectives on university continuing education, and the connections they make between UCE and other parts of the university as well as to society. In this way, *research papers* contribute primarily to the body of knowledge on UCE. They are drawing on theoretical debates or empirical research, contextualized within current national and international policy debate, which develop the theoretical base of the field or report on significant research done. Contributions showing and illustrating *innovative practices* in university continuing education provide another perspective on UCE. They offer a closer look at certain practices, approaches or projects that are either in progress or have been completed, and critically reflect their impact within the university or beyond. And finally, we will include *discussion papers,* presenting informed opinion and reflection on new trends, current research or policy developments within or connected to university lifelong learning. All of them, in their respective ways,

contribute to an evidence-informed foundation of university continuing education. We are, therefore, delighted to publish in this issue one thematic paper, four research papers, two innovative practice articles and two discussion papers.

## CONTENT AND CONTRIBUTIONS

In the introductory thematic paper *Marieke van der Schaaf, Stefan van Geelen* and *Berent Prakken* address the need for transformation in higher education to facilitate expertise development. The authors discuss learner agency and adaptive expertise in the interface of future professionals and their organizations. Examining these processes in the field of health, they compare the need for multi-disciplinarity, innovation and flexibility through the metaphor of acting at an agora.

Expanding this perspective of the roles of universities opening up for the outside world, *Eva Cendon, Dorothée Schulte and Anita Mörth* examine in their research paper the relationship between university continuing education (UCE) and social innovation. The authors ask if and how UCE can be both a boundary spanner and an innovation lab for Higher Education. They propose an innovation matrix to analyse ways in which UCE could successfully operate as a driver for innovation.

*Christina Ipser, Gregor Radinger, Sonja Brachtl, Filiz Keser Aschenberger, Günther Schreder, Nicole Hynek* and *Lukas Zenk* move the analytical focus to the experiences and learning conditions of adult learners. The authors investigate physical learning spaces appropriate for both individual and group learning, by using an interdisciplinary approach combining architecture, education, and psychology, methodologically framed by a mixed methods approach.

Through a systematic literature review, *Filiz Keser Aschenberger* and *Thomas Pfeffer* explore the rarely studied topic of research literacy in UCE. The authors point out a gap in scholarly research on research literacy. Furthermore, they bring to our attention the lack of a comprehensive and holistic concept of research literacy, not only for continuing education, but also for higher education at large.

In the next article, *Nicole Ondrusch, Sahnas Premnavas* and *Julia Schönbrunn* raise the topic of virtual collaboration and teamwork in higher education. Addressing the sudden digital transformation in education during the COVID-19 pandemic, they present a method called working-out-loud (WOL) originally used in companies as a means of engaging students and guiding them towards cooperative, appreciative, reflective and profitable co-operation.

Partnerships with companies and non-governmental organizations are seen as a way of increasing the responsiveness of education institutions. By examining partnerships in the context of vocational education and training and higher education, *Pieter Moerman* in his innovative practice piece uncovers the underpinning power relations that may affect how successful public-private partnerships are in improving the skills and knowledge of the workforce.

Turning back to interaction between students and teachers, *Mahsa Fischer, Nicole Ondrusch* and *Kerstin Steimle* introduce their research on advancing virtual collaboration through peer coaching. They present a case study utilizing a train-the-trainer concept, and suggest that student engagement can be supported in a virtual classroom through sharing teaching and coaching roles among junior and more senior students.

In the following discussion paper, *Boudewijn Grievink* addresses the question of public-private partnerships with a focus on the recent development of Erasmus Centres of Vocational Excellence (CoVEs). He analyses partnerships in the piloting phase of the new programme, and examines how CoVEs bring together employers, educators and other

stakeholders to contribute to the regional skills ecosystem. Based on his analysis, he delves into the key questions on how to organize such partnerships and how to ensure their sustainability.

In his analysis of the English higher education landscape, *Kevin Orr* turns our attention to the serious decline in part-time mature students in the country over the past decade. By analysing the competitive education context in England, he argues that this unintended decline of short-cycle courses is a consequence of broader structural changes in HE and not just the policies of a few universities or a single funding measure.

Our *Journal* concludes with three questions by Eva Cendon to Mirko Noordegraaf. They discuss the key topic of the Utrecht Expert Seminar 2021, the societal impact of universities. Mirko introduces us to the Utrecht University approach to societal impact through the perspectives of societal learning, advice, interactions and co-production. He suggests that it is crucial for universities to invest in continuing education, especially in times of change.

We hope that you enjoy reading this issue of the *eucen Journal* and that you will gain valuable and thought-provoking insights either for your research in university continuing education, your practices as managers or teachers, or for your strategies as part of the university management responsible for university continuing education. Finally, we would like to thank all authors for their valuable contributions and our reviewers for their efforts to make this issue a rich and high-quality endeavour.

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# HEALTH PROFESSIONS EDUCATION IN TIMES OF SOCIETAL CHALLENGES: ACTING AT THE AGORA

**Marieke VAN DER SCHAAF**
**Stefan VAN GEELEN**
**Berent PRAKKEN**
University Medical Center Utrecht, NL

Email: M.F.vanderSchaaf-5@umcutrecht.nl

## ABSTRACT

Health professionals' work environments are rapidly changing. This paper aims to describe the implications of societal challenges for the education and training of health professionals. We compare the need for multi-disciplinarity, innovation and flexibility with acting at an agora. In ancient times, an agora was a public space for trade, politics, arts, science and justice. It was open to all individuals for multidisciplinary debates and connected to education and training. Success in the agora demands professionals' development of adaptive expertise. Adaptive experts are efficient and innovative in meeting (new) societal challenges. Adaptive expertise can only be developed in a joint approach by both the professional and the organization. Agency is needed from both sides and inclusive and innovative learning and work environments are highly important prerequisites. The article illustrates this point with examples from the University Medical Center in Utrecht, where we foster such an environment by means of *The New Utrecht School.*

## BACKGROUND

The work environment of health professionals is rapidly changing. Drivers of this change include social, demographic, and technological developments, as well as globalization and flexibilization of the labour market (Menne *et al.,* 2020). The Covid-19 pandemic has accelerated these developments and shows that, for a steady healthcare system, flexibility of education and training of health professionals is crucial. In this article, we will describe some of the major implications of the abovementioned societal challenges for the education and training of health professionals. We will give examples from the University Medical Center in Utrecht, where our mission is to train the professionals of the future to provide the best person-centred care possible.

Health inequity is a clear example of a major societal challenge. During the current pandemic, it has become increasingly clear that people do not have identical opportunities for health, nor do they have equal access to healthcare. This is especially the case for those who have experienced socioeconomic disadvantages and for those who suffer from other inequalities that are part of our system, such as race and gender. Current examples of health inequity are differences in the availability of vaccines between countries and the variation in life expectancy even between citizens in different neighbourhoods within the same cities (e.g. Gemeente Utrecht, 2018).

Better education and information for citizens and patients and systematic investments in prevention and care within patients' communities would contribute to health equity as well as an increase of prevention and care at patients' home environments, with less or shorter stays in hospitals (Baciu, Negussie & Geller, 2017). Consequently, there is an increased need for education and training in the field of public health and prevention.

For health professionals, such developments demand a better understanding of patients' perspectives and living environments, collaboration with professionals from other disciplines in a chain (or network) around a patient, and utilization of new technologies that facilitate such interdisciplinary processes. The University Medical Center Utrecht's strategy 2020-2025 refers to this as: *Connecting Worlds* (University Medical Center Utrecht, 2020). Connecting Worlds entails a chain of collaboration between professionals and patients to provide personalized and person-centred care to every patient as a unique person. Furthermore, Connecting Worlds refers to the connection of Care, Research and Education. These three need to be connected in order to: a) give the best care to patients, b) to advance cross-cutting research innovation and c) develop health professionals that are not only an expert in their own specialty or discipline but are also prepared for adaptive and interdisciplinary ways of acting.


## ACTING AT THE AGORA

The rapid changes in work contexts do not only affect health professionals, but are also recognizable in many other professions. Professionals' changing work landscape, combined with the ability to commute across borders and practices, can aptly be compared to the Greek Agora (Gude, 2017; cf. Boon *et al.*, 1991). In ancient times, an agora was a public space for trade, politics, arts, and justice, was located at the centre of a town, and was accessible from all sides. It was open to all individuals and connected to education and training in religion, sports, arts, and philosophy. All individuals could equally take part in collective dialogues that examined (societal) challenges by means of argumentation from multidisciplinary perspectives. These challenges were solved by the wisdom of the people, also known as *demosophia*. In this way collective meaning was created, which in turn led to efficient solutions that were broadly understandable. What the agora similarly shows is that true collaboration also demands cooperation between diverse participants in all phases of their careers, and therefore the need to continuously learn and develop.

When we imagine a professional in today's agora, he or she is always in dialogue with various actors. These actors could be institutions or stakeholder groups at an international or local level, such as government, commercial partners, universities or clients. The interaction can be face to face or by means of technical devices. The knowledge claims professionals make will differ in relevance and meaning for these different actors. For instance, a medical procedure can be useful in the eyes of a patient while scientifically there is no claim or proof that it works. And it is also the other way around: a medical study can be scientifically useful in the eyes of a researcher while there is no proof that it impacts the everyday life of patients. In their dialogues with others, professionals should be aware of the possibility that other actors, e.g. patients, can make knowledge claims based on information (e.g. found on the worldwide web) that may not be judged as relevant in the eyes of professionals.

If we look at the healthcare centre as a contemporary agora, investing in multi-, inter- and transdisciplinary training for health professionals is highly relevant. In Utrecht we have done this by means of a new interdisciplinary Bachelor of Science program in health, care and society, as well as in a new interdisciplinary Master of Science program in Medical Humanities. By combining Medicine with the Humanities, Science, and Veterinary Medicine in these programs, students learn to work in interdisciplinary teams, and to integrate perspectives from other disciplines.

At the University Medical Center in Utrecht, students and staff members enter different worlds and act with different groups within a 'modern-day' agora. Some additional examples of how they can learn in a multidisciplinary fashion, or within curricula, are given below.

- First, students from different disciplines work together and try to solve real life problems, didactically supported by challenge-based education.
- Second, patient participation throughout medical education is actively promoted. All medical students follow courses in which they learn how to take different perspectives and learn from feedback they get from real patients and clients.
- Third, medical and nursing science students are trained inter-professionally together as part of their program; students from two or more professions in health learn to cultivate collaborative practices and develop interprofessional skills, for instance, by means of interdisciplinary team projects.
- Finally, for the faculty clinical teaching qualification program, we started a multidisciplinary trajectory for clinical education at the workplace, in which teachers and supervisors learn to supplement their teaching practices with workplace-based learning. They furthermore learn together with health professionals from other specializations in various workplaces in the hospital. It is important to develop interprofessional learning trajectories for staff members, as they serve as role models in multi-disciplinarity for the trainees.

As tomorrow's healthcare will change dramatically, this requires health professionals to be able to constantly adapt to unexpected challenges in the agora. The same goes for professionals in other disciplines. Developing adaptive professionals who are experts in their field and are able to deal efficiently and innovative with change is the core of the educational strategy, synthesized as: *The New Utrecht School* (New Utrecht School, 2021; Van Royen, Franssen & Van Geelen, 2019).

## SUPPORTING PROFESSIONALS' DEVELOPMENT

To be able to move in the agora and to 'connect worlds', agency and teamwork is required. Agency refers to the ability to direct one's actions and be responsible for them, impacting the context for change (Biesta, Priestley & Robinson, 2015). Agency results from the interplay between individual efforts, available resources and contextual factors, such as the culture and facilities of an organization. Two main aspects of agency are: a) a professional's abilities to direct one's action in the environment in collaboration with a team. This requires being adaptive to the environment one is in - and therefore adaptive expertise is needed; b) a supporting environment that allows and stimulates a professional's development.

### Professionals' agency: developing adaptive expertise

When we focus on the professional's abilities needed for agency at the agora, the concept of adaptive expertise is crucial. Traditionally, the training of professionals mainly aimed to develop expertise. An expert has specific characteristics, skills and knowledge in a specific domain that distinguishes him or her from novices or beginners. For more than a century, research in the topic of expertise has been carried out. A breakthrough in research on expertise was incited by De Groot (1946) in studying chess plays. He demonstrated that expertise depends on the recognition of meaningful patterns or situations in a domain and that experts have a superior memory for this. This kind of research has been repeated in other professional settings, for instance among teachers (Van Tartwijk, Van Dijk, Kluijtmans & Van der Schaaf, 2020) and radiologists (Waite *et al.*, 2020). Research shows that expertise is marked by domain knowledge and mediated by patterns of meaning that people attach to situations that occur in particular domains. These patterns are mental constructs, also known as *chunks*, i.e. portions in which the incoming information from the environment is grouped (Miller, 1956; Thalmann, Souza & Oberauer, 2019). They overcome people's constraints of

working memory and provide efficiency as it helps to discriminate between relevant and irrelevant information in (new) domain specific situations.

Consequently, a relevant question for education and training is how to develop expertise. Since the 1990s, many studies into the expertise of professionals have been conducted (Ericsson, Krampe & Tesch-Römer, 1993; Ericsson, 2004). They show that developing expertise is mainly a matter of frequent and longstanding practice. Professionals who gain many years of experience can become skilled and efficient in their profession and build routines. The downside is, however, that following routines too quickly can hamper further development. This phenomenon is also known as the pitfall of too fast routinization or 'arrested' development. According to these studies, only by means of deliberate practice can the highest level of expertise be achieved. Deliberate practice entails: longstanding practice, aiming for high goals, being continuously based on feedback and reflection, and coaching is provided.

A distinction to make within the development of expertise is the difference between routine expertise and adaptive expertise. Routine expertise is important for efficiently addressing common tasks, which are based on similar approaches with predictable results, for instance, carrying out standard procedures. This expertise can be developed by incorporating feedback and reflection and repetition as part of deliberate practice.

Adaptive expertise builds on routine expertise and allows one to solve new complex problems in changing or unpredictable environments, such as working under pressure and in extreme circumstances. Professionals with adaptive expertise can successfully meet new challenges in innovative and creative ways. They are open to change and have a good dose of resilience and self-regulation. They do not only understand whether a certain routine could be effective in a situation and how to carry it out, but they also see why and under what conditions this could (not) be the case. This allows them to better respond to change.

To develop adaptive expertise, we need to offer professionals challenges they can carry out with support from a person with more expertise, i.e. challenges that meet their zone of proximal development. So, giving a beginner a very innovative task can lead to a frustrated beginner, while giving an experienced person routine tasks is going to lead to even more routinization. The development of adaptive expertise is often depicted as an 'adaptability corridor' by balancing between innovation and efficiency (see *Figure 1*).
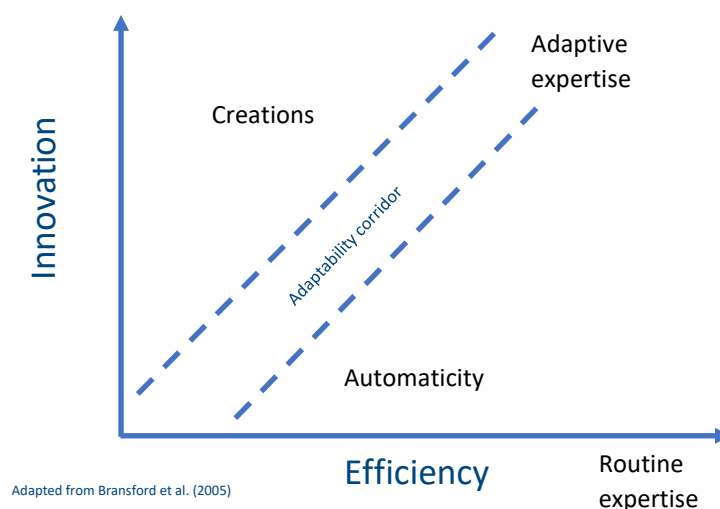


*Figure 1: Adaptability corridor*

Several studies describe training principles that stimulate the development of adaptive expertise (Bohle Carbonell *et al.*, 2014; Kua, Lim, Teo & Edwards, 2020; Mylopoulos, Kulasegaram, & Woods, 2018; Walin, Nokelainen & Mikkonen, 2019; Ward *et al.*, 2018; 2020). In sum, these are:

1. To use feedback and active reflection on experiences;
2. To develop interdisciplinary experience by means of practice with different complex cases and in different situations;
3. Support by a supervisor.

A safe learning environment within the organization, or at the agora, is a prerequisite as well as transformational leadership and a climate for innovation. Safe learning environments at the agora provide "a climate whereby the learner can feel valued and comfortable yet still speak up and take risks without fear of retribution, embarrassment, judgment or consequences either to themselves or others, thereby promoting learning and innovation" (Turner & Harder, 2018, p. 49). The three principles of stimulating the development of adaptive expertise are used in the training of the professionals.

## Professionals' agency: a supporting environment for change

Professionals can only develop adaptive expertise in a healthy learning and work environment that stimulates them to develop, to innovate and to collaborate. In fact, healthcare professionals are continuously developing at the workplace. This workplace can have specific obstructions that hinder learning.

First, financial constraints and staff shortages mean that there is little time available for supervision in the workplace. Also, for the sake of patient safety it is not possible to allow for mistakes that can be learned from. The systematic and focused investment in the learning of students and professionals should therefore be at the almost non-disputable service of their performance towards patients.

Furthermore, high work pressure, physical and mental strain are always present. This is partly due to a high workload and to an experienced unsafe work culture. For instance, Voogt *et al.* (2019; 2020) studied how residents speak out about their ideas at the workplace. They found that a large number of residents tend to remain silent about their ideas for the improvement of care at the hospital, for fear of negative consequences and the perception that they lacked influence or agency to initiate change. If residents do not feel safe to speak up, their professional development and insights are undermined and that can be a risk for patient safety.

This physical and mental strain is also illustrated by a quote of Humikoswki (2018, p. 343) describing doctor's burn-out:

> *Just before dawn on a Sunday, I wake to a frightening declaration in my head: 'I don't want to be a doctor anymore.' I try these words on like they are foreign and dangerous. I don't want to be a doctor anymore. To be the doctor I want to be, I should be, I want everyone to be, takes more of myself than I am willing to give, more than I even have left, certainly more than I can take […]. The very words we use – balance, burnout, self-care – fail to admit that when our professional and personal duties swell in a culture that refuses to align them, it is too much to ask.*

The aforementioned challenges require fundamental choices in how and for what purpose we educate and train health professionals and how we stimulate learning cultures that foster growth.

This starts with a better balance in the purposes of education and training of starting and advanced clinical and research professionals. Education has three functions (Biesta, 2015). First, qualification, which involves developing the knowledge and skills to qualify for a profession. Second, socialization: participating in a community and developing values and attitudes that are necessary for social functioning and functioning in professional practice. Third, personalization aiming at personal development and identity: what kind of healthcare professional do I want to be, and can I be? So far there is too much emphasis on qualification. We can only develop health professionals if there is more balance between the three functions. This demands a more inclusive climate with flexible learning trajectories, for instance based on personalized learning goals, and more interprofessional workplace-based learning during one's career. Other examples are the use of flexible tracks, elective courses, extra-curricular activities such as summer schools and intra institutional collaboration.

In addition, culture change starts with a change in mindset of leaders and faculty staff. As role-models, they also need to work inter-professionally and foster safe and inclusive learning environments. Professional development only works in a strong culture of change with flexible career opportunities. This means that it should become easier to switch between jobs, albeit at the start or advanced in one's career. To steer in the direction of change, improvement of incentives for and recognition and awards of professionals as part of inclusive interprofessional teams are needed.

In Utrecht we aim to foster supporting learning and work environments by prioritizing multidisciplinary and interprofessional learning and stimulating inclusive and diverse learning environments. For instance, all employees are obliged to follow bias-trainings as a first start toward improvement of an inclusive learning and work culture. Other initiatives are the development of an international Master's in Translational Medicine and The New Utrecht School for Advanced Study. Multi-disciplinarity in collaboration between universities, faculties, disciplines, other institutions and stakeholders are key in this approach.

## CONCLUSION

Health professions education and training demands that professionals learn to 'connect worlds' in their professional agora. This demands professionals' agency to constructively do so. Agency includes an individual component and an institutional or cultural component. Both components interact. The individual component requires professionals' adaptive expertise. The institutional or cultural component is needed to foster professionals' development in a safe environment. So far, much of our educational change for professionals focuses on the first – to build curricula and programs to develop professionals who are fit for the future. The aspect of continuing education at the workplace and how professionals can flexibly develop is too often neglected.

To succeed in professional development, a culture of change is needed. This starts with a better balance in the functions of qualification, socialization, and personalization we educate and train for. This also starts with investments in teachers and supervisors that train the professional of the future at the workplace.

Prerequisites for this change are learning and work environments that are inclusive and provide equal opportunities for all students and professionals to learn. Incentives and facilities for professionals' development (e.g. time and space) are conditional for change. Within these environments innovation, research and education are connected.

We illustrated our interpretation of the agora with examples from the University Medical Center in Utrecht that aim to connect innovation in care, research and education. Driven by our strategy outlined in The New Utrecht School we are realizing steps toward an agency of professionals, by training adaptive experts that can foster and nourish open and stimulating learning and work environments. As actors at the agora, we very much welcome further exchange and dialogue about how to improve health professions education in times of societal challenges.

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# UNIVERSITY CONTINUING EDUCATION AS AN INNOVATION LAB FOR FUTURE EDUCATION – POTENTIALS AND LIMITATIONS

**Eva CENDON**
**Dorothée SCHULTE**
**Anita MÖRTH**
FernUniversität in Hagen, DE


Email: eva.cendon@fernuni-hagen.de

## ABSTRACT

The future relevance of higher education (HE) is closely related to its impact on society, with innovation being central to answering current and future societal issues. This article positions university continuing education (UCE) at the crossroads of HE and society, operating in an intermediate position between inside and outside of academia. It asks if and how UCE can be both a boundary spanner and drive societal innovation as well as be an innovation lab for the future of HE. Transposing relevant elements of innovation theory to an innovation matrix that includes different layers and degrees of innovation and by employing a case study approach, the study analyses four cases against this innovation matrix. In doing so, the article reveals the broad range of different innovations within the cases. In addition, contrasting the cases offers new theoretical perspectives on innovation in UCE as it reveals two possible directions of innovation – inside/outside the organisation and its dimensions and direct/indirect effects. This article contributes to an understanding of innovation in UCE that has thus far received only limited study.

## INTRODUCTION

Within the last few years there has been growing research on the future of higher education (HE) focusing on students' heterogeneity and future skills or creating scenarios about learning pathways for a possible new HE landscape (Ehlers & Kellermann, 2019; Orr *et al.*, 2020). This burgeoning area of research is closely linked to the digital transformation of western societies, as well as other more disruptive societal developments. Not least, the current COVID-19 pandemic has shown that things can change overnight, accompanied by accelerated transformations and pressure to innovate. Therefore, the future of HE is also tasked with providing the requisite skills to answer the global challenges of the 21st century (International Commission on the Futures of Education, 2020). As regards the specific role of university continuing education (UCE) within universities, much hope is placed on its importance as an innovation laboratory (Weber, Heidelmann & Klös, 2019). In its intermediate position between inside and outside of academia, or as boundary spanner and operating on the fringes (Dadze-Arthur, Mörth & Cendon, 2020), UCE carries the potential to drive innovation in teaching and learning in HE and make it viable for the future.

Using the aforementioned understanding of UCE, our research paper examines both if and how UCE can act as an innovation lab for future HE. To that end, we base our analysis on

data from the accompanying research of the German wide federal-*Länder* funding initiative "Advancement through Education: Open Universities" (Cendon *et al.*, 2020). In this initiative, about one quarter of all German higher education institutions (HEIs) received funding between 2011 and 2020 to develop and implement provisions for lifelong learners, such as job-accompanying study programmes or modules, certificate courses, or study modules with enhanced practical phases (WB, n. d.).

These developments span four thematic fields: target groups, study formats, organisational structures, and cooperation (Hanft, Pellert, Cendon & Wolter, 2015). While much research has been done in these fields across the whole initiative, our approach takes a different route and closely examines the aspect of innovation. Structurally, we first position innovation within HE, then present the initiative as the context of our study. Thirdly, we introduce a theoretically based analytical matrix for innovation and then use this matrix to analyse cases from the four thematic fields with respect to their contribution to innovation. Finally, we use our findings to discuss the results against the role of UCE as a catalyst for future transformation in HE.

## 1. THE ROLE OF UCE FOR INNOVATION IN HE

The term innovation generally refers to processes of renewal and change in different contexts (Blättel-Mink & Menez, 2015). It is used in various disciplines with different nuances of meaning, its common denominator being that it refers to both the novelty of an idea, method, device, etc. that has not existed before and a change in the sense of an improvement of something that already exists (*ibid.*). The "new" can be *new to the frame of reference* – as an idea that already exists, for example, in the economy and is implemented in HE and thus counts as an innovation in HE – or *new to the world* in the sense of an invention. According to Blättel-Mink & Menez (2015), innovations are social processes as their emergence requires actions from one or more actors, such as turning an idea into an invention or making a management decision that allows for innovation.

### Innovation in HE

The same broad range of meaning also applies to the use of the term innovation within HE. It "can refer simply to some new way of doing things, or a change that improves administrative or scholarly performance, or a transformational experience based on a new way of thinking" (White & Glickman, 2007, p. 97). Innovation in HE is often linked to the third mission of HEIs which includes activities in the areas of continuing education, research and knowledge transfer, as well as social engagement (Henke, Pasternack & Schmid, 2016). This connection is fitting, as this third mission encompasses a broad range of activities for HEIs that serve as an impetus for society: from innovation for (regional) economic development to science and technology transfer to engagement for societal development and interaction with civil society (Berghaeuser & Hoelscher, 2020). HEIs should not simply stop at the development of an idea, but rather apply or transpose it to another context, embracing the power of innovation. This is exactly what Blass and Hayward (2014) point out as crucial for the future of universities in order to ensure their value to society and their position alongside other HE providers. In this sense, research and knowledge production bring innovation "once the knowledge is applied in a new and novel manner to create a new outcome" (*ibid.*, p. 1) and, in turn, adds value to the economy and society (*ibid.*). According to Poetzsch-Heffter and Wehn (2018), a main feature of an ideal innovative university is its ability to generate synergies by combining education, research, and innovation. In this sense, innovative universities are characterised by (1) conducting disciplinary and interdisciplinary research in international and cross-institutional cooperation; (2) providing basic and continuing education with curricula that foster innovation skills; (3) being integrated into the regional economic and social environment and being actively involved in innovation processes; and (4) making

productive use of disciplinary differences and tensions between the universities' tasks, knowledge, education, and innovation.

## UCE as boundary spanner and driver for innovation

A main task of UCE is that of advancing basic university education and imparting new scientific developments and results to professionals already involved in innovation in different fields (Poetzsch-Heffter & When, 2018). In this sense, UCE can be understood as a context particularly conducive to the continuous expansion and development of societal innovation; it equips professionals with new knowledge and competences they can integrate into their professional practices. In the same vein, UCE is often conceptualized as an entity at the boundary (Wilkesmann, 2010) or as a boundary spanner (Thomann, 2019), working and mediating between the world of work and academia. Although UCE might lack strategic recognition as part of the core task, it stands out for its role as gateway to society and as a testing zone for innovation (Pellert, 2019). It experiments with new forms and formats of teaching and learning, anticipates new developments and approaches that are not (yet) addressed by study programmes, engages with topics that are not (yet) the focus of research agendas, and offers interdisciplinary or even transdisciplinary perspectives that are not (yet) discernible from the point of view of single disciplines (Dadze-Arthur, Mörth & Cendon, 2020). It becomes clear that UCE can be seen as a driving force for innovation in HE, exerting influence both within and outside of HEIs.

## 2. CONTEXT OF THE STUDY

Recognising the need for continuous workforce development in Germany, the Federal Ministry of Research and Education (BMBF) together with the regional *Länder* governments launched the German wide federal-*Länder* funding initiative "Advancement through Education: Open Universities" (Aufstieg durch Bildung: offene Hochschulen). The aim of the initiative was to upskill the German workforce; to increase the permeability between the vocational and HE sectors; to increase the speed of new knowledge transfer into professional practice, and to strengthen the international competitiveness of the German higher education system. From 2011 to 2020, it provided German HEIs with a fund of 250 million euros in total for projects geared towards initiating innovative, needs-based, and sustainable concepts for establishing and re-building study programmes and modules for professionals (GWK, 2010). The opportunity for funding in a field of HE that has been scarcely addressed was incentive enough to motivate a quarter of all German HEIs to participate in this initiative. Looking at the project outcomes, innovations can be found in four thematic fields: target groups, formats, organisational structures, and cooperation (Hanft *et al.*, 2015) that are detailed below.

The projects explicitly addressed new *target groups* beyond traditional learners, i.e. university dropouts; individuals without a first academic degree but with a first vocational qualification or several years of work experience; those returning to the labour market after a career break; those with family commitments; those with a first academic degree, and those seeking to study part-time. With the aid of the initiative, efforts to reach these non-traditional target groups proved successful: while an average of only 2.2% of students without a traditional HE entrance qualification take part in regular undergraduate study programmes, the initiative projects' group had an average of 44% participants (Nickel & Thiele, 2020).

The *teaching and learning formats* considered the specific needs and requirements of the addressed target groups. These included formats that are flexible in time, place and space by using digital means such as blended or distance learning modes, as part-time or short-time programmes. Another aspect of the study formats is a focus on integrating theory and practice, introducing methods such as inquiry-based, problem-based, or work-based learning elements. The part-time delivery format dominates over the full-time variants, and a greater

proportion of the programmes are short-term programmes as opposed to degree programmes (Nickel & Thiele, 2020).

The projects also developed new *organisational structures* by implementing UCE as within-faculty or faculty-spanning centres, as independent subsidiaries, or as supra-institutional organisations. In most projects, central units for UCE have been established at university level followed by decentralised or external structures, and very few universities did not establish a structure at all (Maschwitz, Speck, Schwabe & Amintavakoli, 2020).

The projects implemented new forms of *cooperation* with a wide range of partners including other HEIs, professional associations, trade unions, local authorities, welfare institutions, state administrations, associations for regional economic development, and other research institutions (Nickel & Thiele, 2020).

## 3. AN ANALYTICAL INNOVATION MATRIX

While much research has been done within the initiative regarding different aspects of the projects´ outcomes, this particular contribution examines the projects' outcomes with respect to innovation. By applying a case study approach, the study creates context-dependent knowledge that contributes to a better understanding of the phenomenon, constituting preliminary conceptual building blocks for innovation in HE (Ridder, 2017).

Our case study is based on a total of 18 video statements of 16 projects' contributions to opening up HE that were available via the initiative's website. For each of the initiative's thematic fields of innovation we have identified one case that we think addressed the respective field most comprehensively. We then analysed the four cases against two dimensions of innovation based on Tidd and Bessant's (2020) innovation space.

The first dimension encompasses four *layers of innovation*, looking at *what* can be changed:

(1)  *product innovation* is about changes regarding a specific product or service, i.e. improving it, changing a component, adapting or adding a feature, etc. In our context this could be an improved or new study programme.
(2)  *process innovation* addresses changes in the processes, i.e. how something is created and/or delivered. Within HE/UCE this encompasses new formats of delivery such as blended learning (in contrast to on-campus teaching) or internal processes such as the process of programme development.
(3)  *position innovation* is about positioning the product/service in a new context, i.e. offering it to a new market. In a HE/UCE context this could mean changing the perception of the product and offering it to a new target group (a masters programme is now an actual opportunity for non-academics) or addressing companies as customers.
(4)  *paradigm innovation* addresses changes in the basic assumptions that frame everything an organization does and delivers. For our context this would involve what HEIs see as their key functions.

Although innovations usually address more than one of those categories and boundaries can blur, especially between the first two categories, the distinction is helpful in examining an innovation more thoroughly. In order to make use of it, we also put aside any debates about understanding education as product or as process; to this end, we defined study programmes as products/services.

The second dimension addresses the *degree of innovation*. Tidd and Bessant (2020) define it as a range from incremental to radical change, where incremental change stands for improvement of existing products/services and radical change for something new to the world – and with 'new to the organization' in between these two poles. Similarly, Blättel-Mink

and Menez (2015) distinguish between improvement vs. fundamental innovation, where the latter can be a novelty to a system or new to the world. Our matrix breaks it down into the basic differentiation: *improvement* of the existing vs. *novelty* to the respective system. Correspondingly, our matrix of innovation integrates the layers of innovations (product, process, position, paradigm) and the degree of innovation (improvement, novelty) (see figure 1). Using this innovation matrix as basis for analysis allows a differentiated yet comprehensibly complex description of the innovation that occurred in our four cases.



*Figure 1: Innovation Matrix*

## 4. FINDINGS FROM THE CASE STUDIES

### New target groups

A prominent example for the initiative's thematic field *target groups is* the *OPEN – OPen Education in Nursing*[1] (2011–2017) project at the Baden-Wuerttemberg Cooperative State University (DHBW), a University for Applied Sciences that combines academic studies with on-the-job training,. This particular project focused on addressing a specific group of professionals as new students: nurses. In Germany, nurses have to complete a professional qualification at specific vocational schools with a secondary school certificate as entry qualification, and are for the most part women who often work part-time, mainly due to family commitments. When the project answered the need for qualified nurses on a HE level by developing a new bachelors programme, they had to create a programme that considered the prospective students' time restrictions and their previous exclusion from HE degree programmes. To address the first aspect, the project designed the programme as a part-time offering with flexible modules and a blended-learning format. Furthermore, they integrated a strong track on theory-practice-integration. To address the second challenge, the project capitalised on recent legislative changes and created new admission processes, support services for the admission process, and bridging courses for students without HE entry qualifications. To make it even easier for the target group to enter HE, the project also developed short-time programmes that can be accessed without regular HE entrance qualifications and that can later be counted towards the bachelor programme. The new programme allows for professionally qualified persons to earn a full first HE degree (B.A.) and to even continue from there to a master's degree. At the same time, established concepts and processes of blended learning and for integrating theory with practice were improved and amended.

Looking at our innovation matrix, the new programme for nurses can be seen clearly as a product innovation. Before, DHBW's programmes for nurses were only full-time and focused on management issues or non-degree programmes. The product was not only new to this specific HEI, it was also new to the German health care sector in that it enabled education on

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[1] https://www.dhbw-stuttgart.de/forschung-transfer/wirtschaft/projekte/abgeschlossene-projekte/bmbf-projekt-open/

a degree level for a whole group of professionals. This points to innovation in position as the project placed its product in a context that had not yet included degree programmes. On the process layer, innovation as improvement can be found in how the programme is delivered: the connection between academic learning and the students' professional practice as well as the blended learning format. The introduction of admission processes and associated support services can be regarded as a novelty on the process layer.

Finally, there is a detectable shift in the underlying mental model as the university's mission now included persons without regular HE entrance qualifications as real and equivalent students.

| Layers of innovation | | Improvement | Novelty |
|---|---|---|---|
| Product | | | new degree programme |
| Process | | theory-practice-integration blended learning | admission procedure |
| Position | | | target group |
| Paradigm | | | student body |

Degree of innovation

Figure 2: Innovation Matrix: project OPEN – OPen Education in Nursing

**Teaching and learning formats**

Teaching and learning formats as another thematic field of the initiative can be best represented by the project *Studium? Divers!* [2] (2014–2020) at the Ludwigshafen University of Business and Society (LUBS). With the aim of diversifying their student body and attracting students with time restrictions, the project aimed to modify their bachelors and masters programmes to allow the participation of students who work part-time and/or have family commitments. To this end, the project worked on adjusting the timeline and structure of their programmes to allow part-time study and on incorporating e-learning and blended learning elements, including upskilling of lecturers, for example. The project also modularised their existing bachelors and masters programmes and installed regulations for crediting modules across degree programmes so that students can study flexibly over a longer period of time by choosing single modules, even from different programmes. The preparation of these part-time study options included installing regulations and processes as well as lobbying work at the federal ministry of education to adjust the legislative framework to enable part-time studies.

Looking at *Studium? Divers!* through our innovation lens, we can see innovation on a product level as improvement. The project did not install new programmes but adapted their existing ones with regard to flexibility concerning both time and space. This required new processes with regard to how the product is delivered, i.e. offering modules in e-learning and blended learning mode and stretching them over a longer period of time. This was associated with new processes in the form of new regulations for studying part-time and interchanging modules. As regards the innovation layer position, the project addressed potential learners who are working and/or have family commitments as a new target group. The adapted product was positioned in a new context by spreading the news to the students: "you can study 'à la carte' (at least partly)". And finally, a shift with regard to the paradigm becomes obvious as the university changed its underlying mental model from a provider of traditional full-time programmes to a provider of part-time studies – even though essential legal

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[2] https://www.hwg-lu.de/service/studium-lehre/offenes-studienmodell

requirements were not yet in place. Furthermore, the university's struggle to advance the implementation of the necessary legal framework indicates an innovation degree that is also *new* in the overall HE context within the federal state.

| Layers of innovation | | Improvement | Novelty |
|---|---|---|---|
| | **Product** | adjusted programmes | |
| | **Process** | | regulations for studying part-time and for modularisation |
| | **Position** | | target group |
| | **Paradigm** | | the HEI positions itself for part-time study despite lacking legal requirements |

Degree of innovation

*Figure 3: Innovation Matrix: project Studium? Divers!*

## Organisational structures

The project *mint.online* [3] (2011–2017), one of the biggest joint projects in the initiative "Advancement through Education: Open Universities", is outstanding in the field of organisational structures as it created a superstructure, or network, involving eight universities and non-university research institutions. They sought to create a brand that stands for UCE in the STEM fields focusing on the themes of sustainability, energy, and environment. The project looked to attract professionals from different backgrounds and from across Germany who want or need flexible and part-time study opportunities in this field. To that end, the partners developed new programmes and improved existing ones, based on jointly developed quality and evaluation standards. The network also continued to exist beyond the funding period as *Bildungsallianz mint.online* (Education Alliance STEM.online). This strategic alliance continued to build on what had already been done and aimed to present all programmes, including degree programmes, certificate courses, and individual modules as a joint portfolio that allows students to choose and combine programmes and modules from different institutions. For example, students can study a module in the field of environmental sciences at one partner institution and then specialise in the field of wind energy at another partner institution.

On a product level the adaptation of existing programmes can be seen as an improvement and the development of new programmes as a novelty. At first glance, the joint portfolio appears to be nothing new, but rather a re-arranging or assembling of existing programmes, and the innovation can be assumed as an improvement. A closer look qualifies it as novelty if we consider the overall thematic portfolio of programmes as a product in and of itself, even more innovative if we consider that the portfolio stems from HEIs and research institutes and thus is cross-sectoral. The joint development and implementation of regulations and quality standards were new to the single institutions and thus can be seen as a novelty on the process layer. Innovation on the position layer can be seen as new, as the alliance addressed new target groups and positioned its products in a new context. A potential paradigm shift can be seen with regard to the new structure in the form of a novel joint mission that is different from that of each single partner institution. However, no information can be found on the paradigmatic layer within the individual institutions.

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[3] https://de.mintonline.de/

| | | Improvement | Novelty |
|---|---|---|---|
| **Layers of innovation** | **Product** | adjusted programmes | new programmes portfolio as a new product |
| | **Process** | | new processes and standards of development and delivery of programmes |
| | **Position** | | target group |
| | **Paradigm** | | (new joint mission of the new structure) |
| | | **Improvement** | **Novelty** |
| | | **Degree of innovation** | |

*Figure 4 : Innovation Matrix: project mint.online*

**Cooperation**

The project *QUP* [4] (2014–2020) at the University of Potsdam (UP) aimed to develop programmes for professionals from different fields and backgrounds who will be managing demographic change within their organisations. The project planned to develop a new masters programme in demography-oriented sports and health management and to upskill their own faculty by developing a certificate programme for faculty engaged in UCE in order to foster professional competence and heterogeneity orientation, as well as new teaching approaches. A key component of the project was cooperation with *UP Transfer GmbH* (UP Transfer). UP Transfer is a subsidiary company of the university that is responsible for HE knowledge and technology transfer in the Potsdam area by offering, for example, continuing education, consulting, and management services. This cooperation is characterised by a clear division of responsibilities, with the university in charge of defining standards and awarding the degree and UP Transfer in charge of student support, delivery of the programme, management issues such as financing, and continuous programme improvement based on input from regional partners. In essence, the cooperation serves to strengthen UCE at the university. The innovation consists of using the synergies between the university and UP Transfer in order to develop needs-based and targeted programmes and their successful delivery. The university brings its reputation, programmes and qualified lecturers and the subsidiary company offers their experienced management unit for service and advice as well as regional networking.

On a product level, the programmes are a novelty as they address a new thematic field: demographic change and tailored thematic offers, such as change management and learning organisations. For this, different regional business, science and societal partners were involved, and joint qualification programmes were developed. Furthermore, new strategies for the quality improvement of UCE have been developed in order to establish good practices of teaching and learning in HE, which provides innovation with regard to processes. The university positions itself in a new way as the programmes focus on new target groups: professionals who will manage demographic change within their organisations. The cooperation between the university and UP Transfer can be understood as innovation on the paradigm level, as the university makes use of cooperative synergies in order to strengthen the quality, positioning, and visibility of UCE. This, again, involves innovative and new processes that define and differentiate the competencies and tasks between the university and UP Transfer.

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[4] https://www.up-transfer.de

| Layers of innovation | | | |
|---|---|---|---|
| **Product** | | | new thematic field<br>joint programmes |
| **Process** | | | new strategies for quality<br>development and collaboration |
| **Position** | | | new target groups<br>cooperation between institutions |
| **Paradigm** | | | cooperative synergies and<br>outsourcing |
| | **Improvement** | | **novelty** |

Degree of innovation

*Figure 5: Innovation Matrix: project QUP*

## 5. UCE AS A DRIVER FOR FUTURE TRANSFORMATION?

Even though our findings are limited with regard to applicability, they show how innovation can take place in a closed and demarcated setting. This is because, according to a case study approach, the significance lies in the epistemological conviction that a particular case can also represent other cases, and thus the findings contribute to a better understanding of the phenomenon. Looking at the analysis across the cases, several relevant topics emerge in support of the potential role of UCE as driver for innovation.

The first of these topics is "direction of innovation". Two main directions of innovation can be identified: (1) innovation that impacts the organisation itself and (2) innovation that takes effect outside the institution. This can be illustrated by contrasting the projects *mint.online* and *Studium? Divers!*. The *mint.online* project creates something new that materialized outside the individual organisations, with its own distinct structure, a new portfolio, a new target group, and a specific joint mission that is situated between different organisations. The degree of innovation with respect to paradigm cannot be identified within the single organisations, and the single institutions remain possibly unaffected by this innovation. In contrast, the innovation in *Studium? Divers!* takes effect within the institution – in new regulations that impact not only a specific group of learners or a specific UCE subsystem but influence all areas of the university; hence, innovation is diffusing within the institution changing its mission. A similar feature can be found in the *OPEN* project, where professionals from a specific field are targeted as new students, effecting organisational change in its conception of "students" and enhancing the university's mission. The outside impact also comes into view when the innovations of the *Studium? Divers!* and *OPEN* projects affect legislative regulations regarding part-time study. In requiring a shift in legal regulations as a precondition for their innovation, they helped change study conditions for non-traditional students within their federated state.

A further aspect of direction emerges when looking at *QUP*. Outsourcing the UCE programme to the university's subsidiary education provider suggests that – aside from the paradigm innovation that the university handed over control for core tasks – there are not any effects on the university. However, considering the upskilling of faculty involved in the UCE programme, these individuals bring new ideas back to other non-UCE programmes and disseminate them to non-UCE faculty. This could be seen as an indirect effect on the organisation by creating new opportunities for the visibility of UCE within the university.

With regard to UCE's potential contributions to and limitations in answering future challenges of HE, let us review the layers of the innovation matrix. The analysis shows that innovation on a product level is obvious. Yet, the effect for the organisation remains limited if it is happening in an isolated space and cannot induce a paradigmatic transformation of the

university. In contrast, innovation of processes has great potential to initiate transformation if/when it also impacts general organisational processes. Moreover, when it comes to positioning, addressing new target groups can have a strong organisational impact if this shift affects multiple, not just single programmes. This increased participation and fostering of permeability comprise what we refer to as an adapted self-conception. This innovation on the paradigm layer is key to transforming a university's culture and future approaches.

## 6. CONCLUSION

This paper presented four cases of innovation in UCE from four different innovation fields that emerged within the initiative "Advancement through Education: Open Universities". The cases were analysed by applying an innovation matrix that differentiates improvements from novelty within the layers of product, process, position, and paradigm. This revealed how innovation can take shape on different levels and their interconnections. By using the matrix for cross-case analysis, we were able to identify two directions of impact of those innovations: inside and outside the organization and two dimensions: direct and indirect effects. These results could be regarded as contributing to a more systematic approach towards the potentials of innovation in HE. However, with regard to UCE as an innovation lab for future higher education, more large-scale, in-depth research is still needed to investigate aspects of innovation in connection with future skills.

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# EXPERIENCING LEARNING SPACES IN CONTINUING EDUCATION: THE LEARNER'S PERSPECTIVE

**Christina IPSER**
**Gregor RADINGER**
**Sonja BRACHTL**
**Filiz KESER ASCHENBERGER**
**Günther SCHREDER**
**Nicole HYNEK**
**Lukas ZENK**
Danube University Krems, AT


Email: Christina.Ipser@donau-uni.ac.at

## ABSTRACT

The number of students participating in academic continuing education programmes has steadily increased over recent years. However, currently, little is known about the experiences and learning conditions of adult students. This study examines students' experiences of physical learning environments on an academic continuing education university campus. To gain a comprehensive insight, an interdisciplinary approach combining the fields of architecture, education, and psychology was chosen.

In a case study, we used a mix of qualitative and quantitative data-collection methods including a questionnaire, a semantic differential scale, walking interviews and facilitated focus groups, as well as technical measurements and photo protocols.

Our results demonstrate that spatial characteristics such as acoustics, air quality, visual comfort, furniture and equipment, plants and greenspaces were essential factors in creating a conducive learning environment. Furthermore, students specified a strong need for appropriate spaces for collaborative work and individual and informal exchanges on campus. Noise disturbance and the lack of favourable design features were the most frequently mentioned characteristics perceived negatively. Our findings indicate that the design of informal learning spaces on campus that align with appropriate learning activities based on students' experiences and expectations is crucial for continuing education students.

## INTRODUCTION

Within the field of learning-space research, investigating the architectural aspects of physical learning environments and the connection between physical learning spaces and student learning is of growing interest for practitioners and researchers alike. Besides the overall quality of the learning, the psychological and physical well-being of the learners and teachers are of particular importance. The impacts of physical learning spaces on different aspects of learning, both for compulsory and post-compulsory education, are already generally recognised and accepted in educational sciences as well as in design and architecture (Higgins *et al.*, 2005; Melhuish *et al.*, 2008; Sivunen *et al.*, 2014).

Nevertheless, only a small amount of highly fragmented research has been identified regarding the use of space in higher education (Ellis & Goodyear, 2016). One specific topic that has, thus far, received particularly scant attention is the area of learning spaces in adult and continuing education, even though it is recognised that adult learning is significantly different from the learning of students in the formal education system in terms of motivation, orientation to learning, experience in learning and self-concept (Knowles *et al.*, 2005).

In 2016, 44.4% of adults in the EU ages 25 to 64 participated in at least one formal or non-formal educational or training activity (Eurostat, 2020). Programmes offered by universities are currently gaining momentum, especially in the German-speaking countries of Austria, Germany and Switzerland. Universities offer a variety of programmes and courses as part of their continuing education activities. These may be listed as individual seminars without ECTS, free continuing education series, summer courses, university courses without degrees, corporate programmes, ECTS-based certificate courses, ECTS-based individual seminars and academic expertise programmes (Gornik, 2019). In addition to these, academic continuing education, which can be defined as formal learning activities (leading to a bachelor or master's degree) offered by universities for adults, is one of the common activities within the framework of university continuing education. Some programmes admit students without prior academic degrees through permeability and recognition of prior learning. There exist specialised universities, such as Danube University Krems, that offer academic continuing education programmes to adults. In Austria, the number of students participating in academic continuing education programmes increased by 77% between 2009 and 2019 (Kulhanek *et al.*, 2019). In 2018, 12% of the adult population in Germany participated in some form of academic continuing education activity (BMBF, 2019).

Despite increasing participation, little is known about the learning experiences and conditions of this cohort. There is a significant gap in the literature, and our literature research has not identified any appropriate studies on the physical learning environment in continuing education settings. Thus, it is crucial to study adult participants' experiences regarding physical learning spaces and to investigate the patterns and qualities of learning spaces unique to continuing education. For this purpose, an interdisciplinary research project was conducted combining the fields of architecture, education and psychology to answer the following main research question:

> *How do learners in academic continuing education experience the physical learning environment on a university campus?*

## STATE OF THE ART

To achieve a holistic picture of the learning spaces and students' experiences in academic continuing education, we follow a learning-space model from Wilson (2009), the *Places for Learning Spectrum*. He argues that campuses need to be considered as a network of connected learning environments. From this perspective, the process of learning is not carried out in isolated physical spaces but rather within a range of different types of learning and teaching activities, spaces and technologies. He identifies a balance and mixture of learning spaces ranging from formal learning spaces, such as labs or seminar rooms, to informal learning spaces like parks or catering areas.

Wilson's model recognises a continuum from informal to formal learning environments: from completely independent, self-directed and unstructured to highly structured and teacher-led didactics. The *Places for Learning Spectrum* is a student-centric model and can be divided into three components that explore their relationships from a learner's perspective: (1) the types of physical spaces that support learning, (2) the various communities of people who support learning (staff, peers, community), and (3) learning modalities to enable learning for different student outcomes (see *Figure 1*).
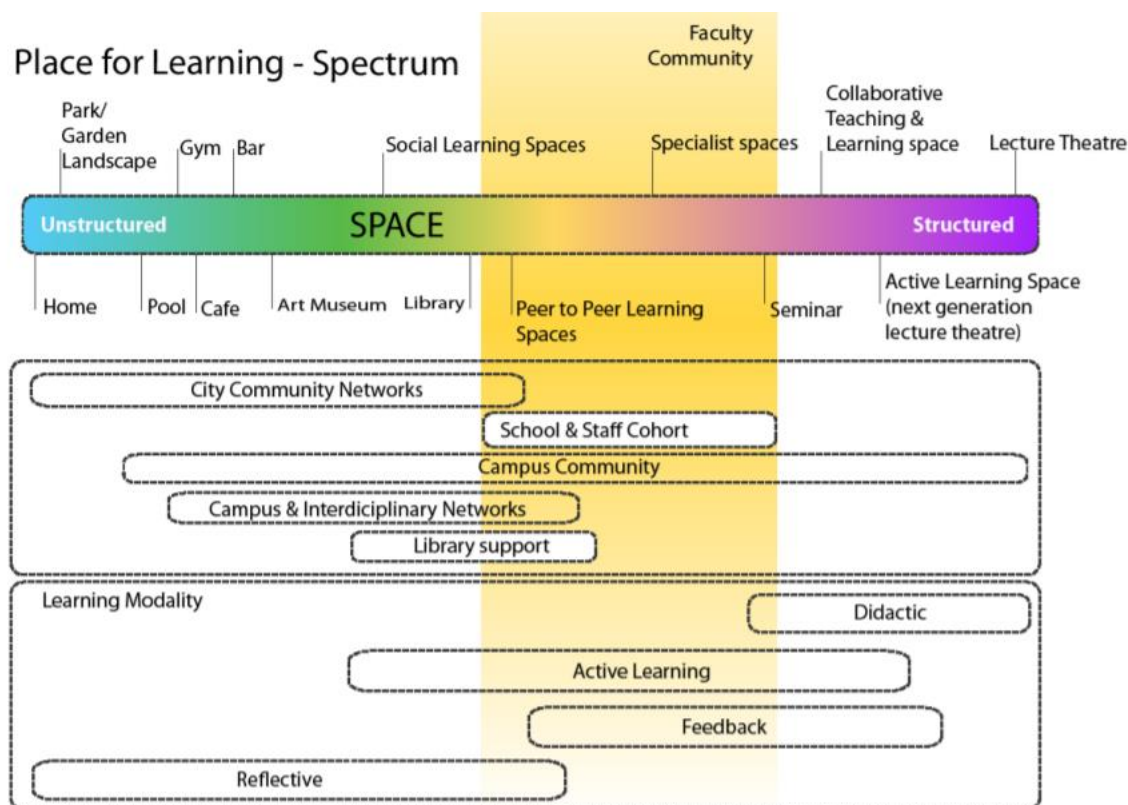
Figure 1: Places for Learning Spectrum (Wilson, 2009, p. 20)

In this study, we follow this line of research on students' experiences of learning spaces. Ellis and Goodyear (2016) provide a useful review of previous research on students' experiences. Understanding and designing learning spaces based on students' experiences and well-being are strongly recommended both for the campus and for individual seminar rooms, lecture halls and other discrete spaces.

Several studies focusing on physical learning spaces from learners' perspectives have investigated the relationship between spatial characteristics, student satisfaction and learning experiences. According to Hanssen and Solvoll (2015), the factor that most strongly influences student satisfaction with university facilities is the quality of the social areas, auditoriums and libraries. A study by Sankari *et al.* (2018) suggests that learners in an academic context would appreciate spaces that reflect some of the characteristics of co-working spaces, such as community, multipurpose offices, high accessibility and overall attractiveness.

According to Kärnä and Julin (2015), characteristics of spaces that are close to universities' core activities like teaching have a greater impact on overall learner satisfaction compared to spatial characteristics like campus accessibility and environment that are more distant to these activities. Several studies have also highlighted the importance of the physical space and technical equipment conducive to active-learning techniques as factors contributing to student engagement and connecting learners and lecturers in an active learning process (Brooks, 2011; de Borba *et al.*, 2019; Hill & Epps, 2010; Yeoman & Wilson, 2019).

Besides interior settings and designs, classroom views to greenscapes were shown to have a positive impact on student satisfaction and course ratings (Benfield *et al.*, 2015). Furthermore, access to natural views increased visual creativity (Studente *et al.*, 2016), resulted in higher grades at the end of the semester (Benfield et al., 2015), had an impact on better performance on tests of attention and increased student recovery from stressful experiences (Li & Sullivan, 2016).

There is also broad evidence on the impact of indoor environmental quality (IEQ) on occupants' health and productivity (Mujan *et al.*, 2019) as well as cognitive functioning (Wang *et al.*, 2021) and on the relationship of different aspects of IEQ (including thermal, visual and acoustic comfort, indoor air quality) to student satisfaction and learning performance (e.g. Ramprasad & Subbaiyan, 2017; Sarbu & Pacurar, 2015; Shan *et al.*, 2018; Yang & Mak, 2020).

Against this empirical and theoretical background, the article is organised as follows: in the research methods, the context of the study and our selected methodological approaches are described. To investigate the broader learning spaces of a university campus and IEQ of specifically designed seminar rooms, qualitative and quantitative data were collected. In the results, the perceptions and experiences of the learners are presented. Finally, we discuss the main findings regarding students' experiences with learning spaces in continuing education and their implications.

## RESEARCH METHODS

To explore students' experiences of physical learning spaces in academic continuing education, we conducted a case study based on qualitative and quantitative data collections (Yin, 2018). For this purpose, a five-day compulsory learning module, *Cognition and Creativity*, which took place at Danube University Krems in Austria, was investigated. This case study focussed both on the university campus, with its spectrum of different formal to informal learning spaces and on seminar rooms with various interior settings and designs.

### Research Context

Danube University Krems is a public continuing education university in Austria providing post-graduate education programmes. Currently, about 8000 students are registered. The average age of students is about 40 years; 19.4% are over 50 and 2% are over 60 years old. The majority of the students are employed while studying, and most have several years of professional experience. Educational background is quite diverse as students without higher-education entrance qualifications are admitted with equivalent qualifications achieved through non-formal or informal learning activities (Humer *et al.*, 2019).

The campus covers an area of about 34,000 m² and is located at the foot of vineyards that are typical for the Wachau region, which is a UNESCO World Heritage Site. In addition to vehicle-free access areas and walkways, it offers greenspaces, rest areas and art installations. The building stock consists mainly of a listed historic industrial building constructed in the 1920s and carefully renovated in the 1990s and a modern building that was completed in 2005 and houses seminar rooms, office space, research infrastructure, a library, catering areas and an auditorium (see *Figure 2*).

*Figure 2: The historic (left) and modern building at the campus of Danube University Krems (© Gregor Radinger)*

## Data Collection

To conduct a comprehensive examination of learners' experiences in relation to physical learning spaces, including the whole campus as well as specific seminar rooms, we applied a mix of qualitative and quantitative data collection methods.

### 1. Questionnaire: Expectations and satisfaction with the physical campus learning environment

The aim of the questionnaire was to gain insights into students' experiences of the physical learning environment on the university campus, including their expectations and degree of satisfaction regarding the following topics and criteria:

- Characteristics of indoor environmental quality: contemporary design (of buildings, indoor and outdoor spaces, interior and furniture), adequate temperature conditions, adequate air quality, adequate room acoustics, use of health-promoting building materials and modern equipment;

- Availability of space on campus suitable for various activities related to learning and well-being: spaces for concentrated individual study, retreat and relaxation, group work, creative tasks and informal exchanges with peers and lecturers;

- Campus environment and accessibility: quality of campus environment (e.g. natural surroundings, cultural offerings and gastronomy), campus accessibility and connection to public transport.

Data were collected using a paper-and-pencil questionnaire that was handed out at the end of the module week. Students were asked to assess the importance of the criteria for learning spaces in continuing education on a four-point scale: (1) unimportant, (2) rather important, (3) important or (4) very important. The extent to which they felt their expectations were met by the spaces provided within the campus was also rated on a four-point scale: (1) not fulfilled, (2) insufficiently fulfilled, (3) satisfactorily fulfilled or (4) very satisfactorily fulfilled.

## 2. Walking interviews: Perception and use of the campus learning environment

The aim of the walking interviews was to explore how different rooms, facilities and areas on the campus are perceived and, particularly, how they are used by students within their learning activities in the context of continuing education. In walking interviews, researchers accompany the participants in their usual spatial environment and collect their experiences, interpretations and practices within the environment in which they move (Carpiano, 2009).

For this part, each of seven researchers accompanied two students and visited two preselected locations on the university campus. Hence, 14 locations were visited, which can be assigned to five spatial categories: four campus catering areas (restaurants and cafeterias), two seminar rooms, three freely accessible indoor work and lounge areas, three outdoor areas, and two learning spaces in the university library (see *Figure 5*). The researchers followed guiding questions related to the students' perceptions, evaluations and uses of the visited locations.

The students' statements were audio-recorded and evaluated according to the number of comments regarding positively or negatively perceived spatial qualities, patterns of usage and expressed desires regarding the spatial infrastructure.
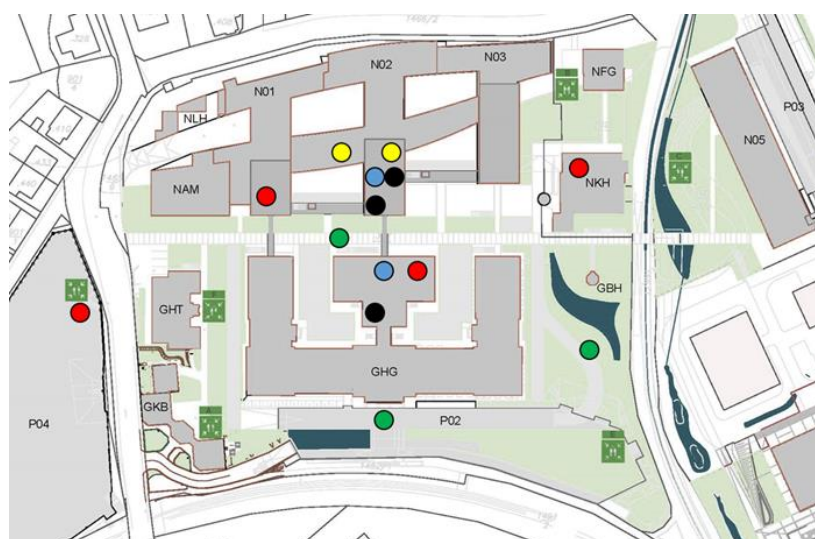


*Figure 3: Campus plan with the investigated locations: seminar rooms (blue dots), catering areas (red), lounge and work areas (black), public outdoor areas (green) and library spaces (yellow).*

## 3. Semantic differential: Perception of interior space in different equipment settings

To analyse students' perceptions of specific spatial settings while performing creative group tasks, two similar seminar rooms in the new building on the campus were prepared with different equipment and furniture as shown in *Figure 4*. The conventional seminar room (C 2.2) was set up with basic conventional furnishings including uniform tables and chairs. The innovation room (C 2.8) was equipped with posters, plants, a variety of furniture and a reading corner, and equipment was provided such as flipcharts, mobile lamps, etc. aiming to offer a more creative environment and an inspiring atmosphere.

*Figure 4: The conventional seminar room (C 2.2, left) and generously equipped innovation room (C 2.8, right) (© Gregor Radinger)*

Several workshop tasks were conducted in groups of three to four people on two consecutive days in these room settings. The groups changed rooms in a randomised selection. A semantic differential scale developed by Frank *et al.* (2015) as an *atmospheric seismograph* to analyse spatial, material and lighting effects in different architectural environments was adapted to investigate the students' perceptions of the two different room settings. The participants rated their affective attitude towards the different spatial settings on a seven-point scale between 20 bipolar-association terms (see *Figure 7*).

## 4. Facilitated focus group: Experiences with physical learning environments

At the end of the module week, the students' perceptions regarding the influence of the experienced spatial settings on their learning activities during the module were collected in a moderated group discussion. The discussion followed guiding questions related to the students' perceived impact of physical-spatial characteristics on their learning experience and their opinions regarding specific requirements for the physical learning environment in continuing academic education.

## 5. Technical measurements and photo protocols

The indoor air temperature (thermal) and $CO_2$ concentration (as an indicator of indoor air quality) of the seminar rooms were measured during the time period under observation, and the characteristics in the seminar rooms were documented using photo protocols.

### Study Setting and Participants

The study was conducted during the university course module *Cognition and Creativity,* which was organised by the Department for Knowledge and Communication Management as an elective module eligible for different master's degree programmes. The time-blocked courses were held in different rooms on the campus of Danube University in Krems between 9:15 am and 4:45 pm each day during the second week of December in 2019.

In all, 14 participants, seven males and seven females, took part in this module. Their average age was 37.9 years, and 61.5% of the participants already had a university degree, 15.4% a university entrance qualification, and 23.1% an apprenticeship qualification. Moreover, 76.9% of the participants were employed and 23.1% were self-employed, all of them studying on a part-time basis. The students had already completed one or more modules at Danube University Krems and were familiar with the spatial offerings and campus infrastructure.

## Characteristics of Seminar Rooms

During the course module, four seminar rooms were available as lecture rooms. Two seminar rooms (SE 2.4 and SE 3.4) are located in the refurbished historic building, which has box-type windows. Two additional seminar rooms (C 2.2, C 2.8) are located in the modern building. The floor-to-ceiling fixed glazings in the new building have external, vertical sun-protection louvres. Although the rooms in the new building are mechanically ventilated, natural ventilation is also possible through room-high ventilation flaps. The usable floor areas of all four seminar rooms each range from 43 to 139 m². The interior design of the seminar rooms in the old and new buildings differs regarding colour and materials. In the old building, the interior room surfaces are plastered in a light or cream colour with fittings and door frames and panels painted in shades of pastel green, while the new building is dominated by exposed concrete surfaces and dark-violet acoustic panels as well as large, glazed areas.



*Figure 5: Seminar rooms in the historic building (SE 2.4, top) and in the modern building (C 2.8, bottom) (© Gregor Radinger)*

Average room temperatures in the seminar rooms during the course module were in a range between 22.7 °C and 23.1 °C, with simultaneous prevailing outdoor temperatures of a maximal 6.4 °C. Thus, the measured air temperatures are in a range perceived mostly as comfortable according to different standards such as ISO EN 7730 (International Organization for Standardization, 2005). The peaks of $CO_2$ concentration in the seminar rooms never exceeded 1176 ppm. Considering these peak levels, the indoor air quality can be classified as between moderate and low (Umweltbundesamt, 2008) but can quickly be improved by shock ventilation.

## RESULTS

## Expectations and satisfaction with the physical campus learning environment

The average of all investigated criteria regarding their *importance* was 3.1 (SD = 0.75) and lies in the range between 'important' and 'very important' (see *Figure 6*). Regarding IEQ, the quality of the indoor air was rated as the most important criterion (M = 3.6, SD = 0.51), while the use of health-promoting materials was ranked of only moderate importance (M = 2.67, SD = 0.89). In terms of spatial availability, places for conducting complex tasks (M = 3.4, SD = 0.65) were considered most important, while spaces for individual study on campus seemed to be less important (M = 2.85, SD = 0.99). The campus environment (natural surroundings, cultural and gastronomic offerings) was assessed as rather important (M = 3, SD = 0.82), whereas campus accessibility and connection to the public transport network were rated as less important (M = 2.5, SD = 0.78).

The average of all investigated criteria regarding their *fulfilment of expectations* was 2.9 (SD = 0.63). The lowest satisfaction was shown regarding the availability of areas for conducting complex tasks (M = 2.31, SD = 0.63) as well as for group work (M = 2.54, SD = 0.66), relaxation (M =2.54, SD = 0.66) and individual study (M = 2.62, SD = 0.65). The criteria for IEQ were assessed as rather satisfactory except for the indoor air quality (M = 2.77, SD = 0.44), which was rated as the most important of all the criteria.

Expectations regarding the campus environment as well as campus accessibility and connection to public transport were both considered to be sufficiently fulfilled (M = 3.00, SD = 0.58; M = 3.08, SD = 0.49).
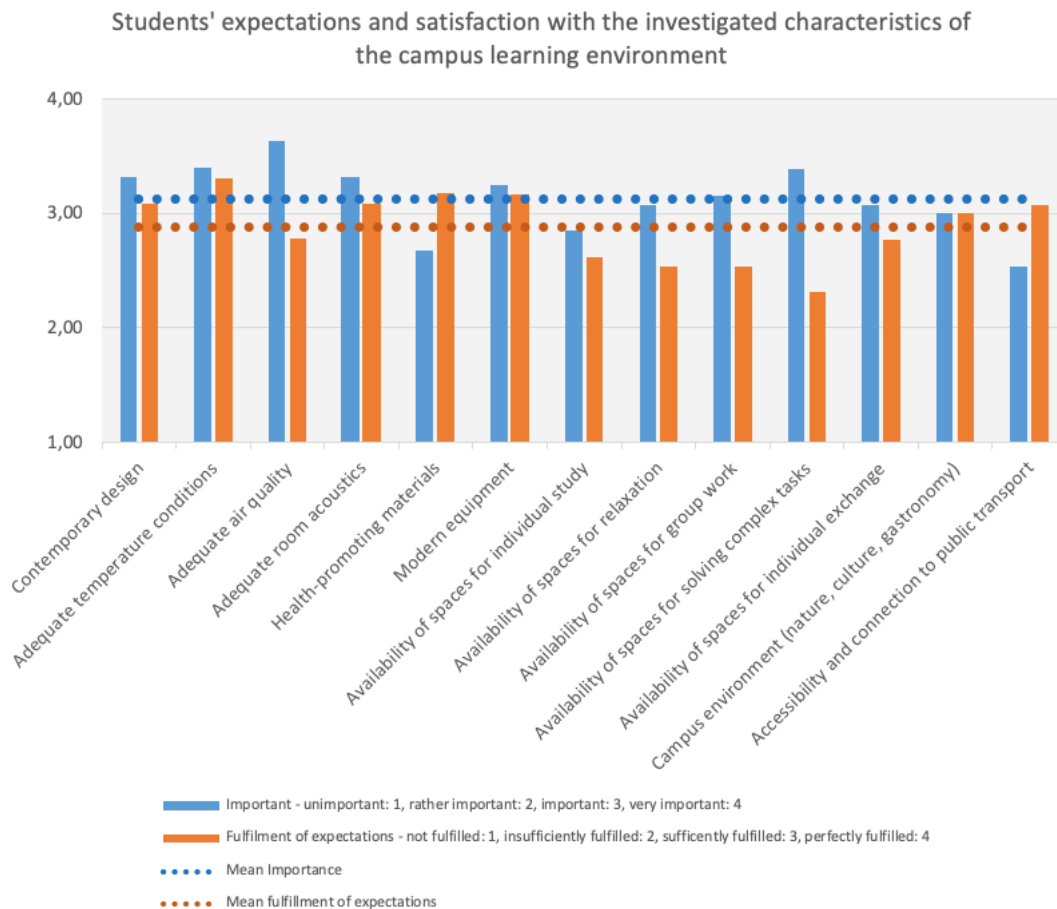


*Figure 6: Students' expectations and satisfaction regarding indoor environmental quality, availability of spaces for different activities, and campus environment and accessibility*

## Perception and use of campus learning environment

The analysis of the walking interviews revealed that noise and poor acoustics as well as sterile or 'cold' room design are the most frequently mentioned negatively perceived room qualities (5 mentions for each). Brightness and the availability of daylight are often mentioned positively (4 mentions). Regarding the available space, the lack of privacy (4 mentions) and non-existent or unsuitable furniture in generally accessible areas (3 mentions) were also noted. The availability of greenspace, the view and the spacious interiors with high ceilings (3 mentions each) were perceived positively. The demands on the spatial offerings on campus refer primarily to suitable furniture and equipment in outdoor areas (4 mentions) as well as to room areas for group activities and exchanges with other students (3 mentions each).

The analysis confirmed the need for more suitable spaces for group work, collaborative work, and individual and informal exchanges. Furthermore, several reasons that certain spaces were not used or were disliked could be identified, including inappropriate design and lack of furniture. One student commented, 'One has the feeling it's not at all desired that one communicates here or that group work takes place'. Other reasons were poor acoustics (especially in the lounge and catering areas), limited accessibility due to restricted access or opening hours, lack of service infrastructure (e.g. catering, restrooms) and lack of retreat or privacy, which another student described as being '… too open to concentrate'. Since most of the students in the compulsory learning module were accommodated in hotel or dormitory rooms close to the campus, they used these predominantly for individual study.

## Perception of interior space in different equipment settings

The analysis of the semantic differential scale showed that the redesign of the seminar room into a generously equipped innovation room strongly influenced the students' perceptions and experiences. *Figure 7* illustrates the average ratings of the two rooms ranked according to rating differences. Overall, the innovation room was rated more positively than the conventional seminar room on almost all dimensions (no overlap of the 95% confidence intervals). However, the innovation room was perceived as more chaotic than the seminar room. We found it particularly interesting that the innovation room was not rated as 'new'. As one participant stated, almost all companies already provide 'some sort of innovation space', so the novelty value is limited. In addition, it must be noted that the positive perception of the room did not automatically affect students' interactions with the provided equipment. For example, while conducting the team activities, it was observed that, while one group immediately started to use the foam cutter in the innovation room, another group remained seated and paid no further attention to the equipment.
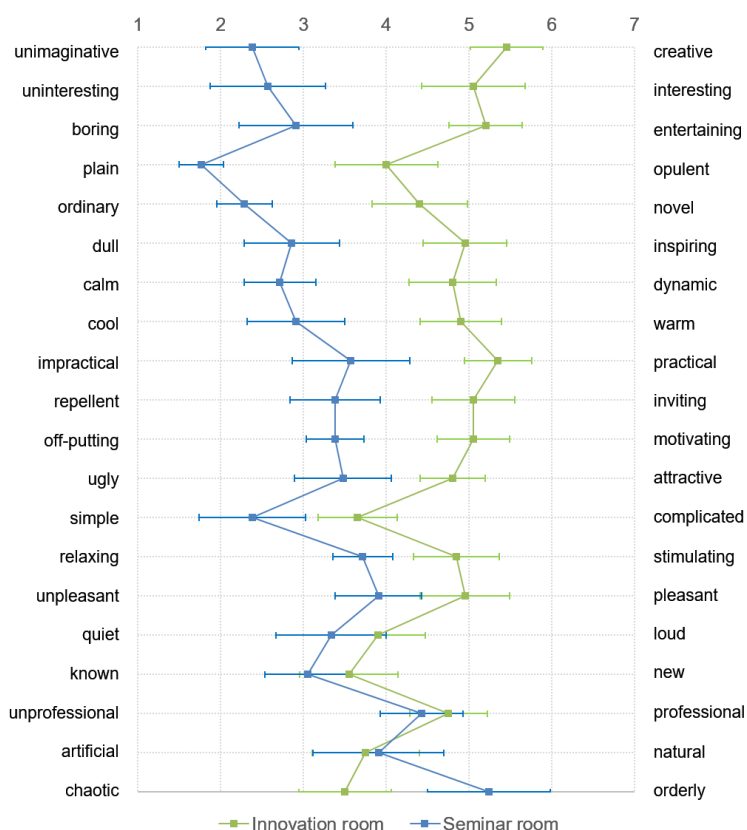


*Figure 7: Results of the semantic differential scale sorted by size of difference and including 95% CI*

## Experiences with the physical learning environment

In the group discussion, participants stated that the seminar rooms in the historic building were considered a more suitable learning environment compared to the new building. Above all, the use of natural materials such as wood and the patina caused by aging were perceived as pleasant. The rooms in the new building were perceived as stimulating, but at the same time sterile, although the combination of wood and concrete attracted positive attention. The ventilation flaps in the new building were considered disadvantageous compared to the window ventilation in the old building. Upholstered seating was found to be more comfortable than chairs without upholstery. The design of the restrooms in the historic building (spacious, with light colours) was considered positive compared to those in the new building with dark-coloured walls.

Technical infrastructure with ample electrical outlets, charging stations for electronic devices and internet connectivity, windows that can be opened and appropriate room size were mentioned as essential basic requirements for learning spaces, as well as adequate room lighting without glare. In terms of spatial design, light cream-coloured room surfaces were considered more pleasant than saturated dark colours. Flexible and comfortable furniture and the U-shaped arrangement of tables were considered practicable.

Greenscape views, plants, and proximity to additional facilities such as restrooms, food sources and coffee machines also had an impact on the perception of space. Further ideas and wishes included writable walls, retreat areas, possibilities for food preparation and furniture in the outdoor space suitable for group work or relaxation.

## DISCUSSION

Reflecting on the findings in regard to our research question, which aimed to understand the adult learners' experiences of physical learning spaces, students were generally satisfied with the physical characteristics of spaces on the university campus. The structured, formal learning spaces as seminar rooms (Wilson, 2009) were rated rather positively compared to informal, unstructured learning spaces for activities and tasks such as collaborative work or individual exchanges. Regarding structured learning spaces, our study revealed results similar to those of previous research (Wilson & Cotgrave, 2016) that also considered the roles of temperature, equipment and spaciousness in student satisfaction. In a comparable study (Hill & Epps, 2010), adult students also indicated higher satisfaction in innovative rooms with improved seating, lighting and classroom noise control compared to conventional seminar rooms. To a significant degree, improved learning environments create a different and more positive experience for students. Basic measures like adding plants or changing colours, furniture and equipment can result in a better learning experience.

The design features of the historic building with its natural materials, patinated fittings and simple-to-use operating elements influenced a positive perception of space. Although combinations of wooden floors with industrial design in the new building were considered stimulating, the students prefer the old building to the modern, high-tech architecture as a learning environment in many respects.

The provision of different types of furniture for sitting and standing activities, artefacts, tools, technical infrastructure, etc. enables a significantly more positive perception of space compared to a minimalist room design. The demands regarding the quality of the furniture, especially in terms of ergonomics, as well as expectations related to indoor environmental properties, such as acoustics, temperature and air quality, were high. The perception of space was positively influenced by flexible furniture arrangements and the simple operability of windows and shades, which allowed users to regulate temperature and air quality as well as lighting and view. Above all, noise and disturbing sounds should be reduced by

appropriate construction and design measures (Castro-Martinez *et al.*, 2017; Dias *et al.*, 2019).

Informal learning spaces were among the main topics regarding the campus experience. Areas for group work, informal exchanges and relaxation are essential components of the spatial repertoire of universities. Therefore, the exterior is seen as an important spatial resource that has to be designed accordingly and equipped with furniture and technological infrastructure. In addition, interspaces such as corridors and access areas can be used and designed as meeting and communication spaces, with amenities like coffee machines, water dispensers, etc. to encourage their use. Moreover, the design and functionality of restrooms were recognised by students, especially if their usability was impaired (Wilson & Cotgrave, 2016). The maintenance of facilities can, therefore, contribute significantly to a positive perception of the space.

The students emphasised the lack of informal learning spaces on the campus and within the buildings. Informal learning spaces or social learning spaces (Wilson, 2009) are important elements of the learning environment; they promote a culture of freedom and openness and enhance relationships between students (Berman, 2020). In our case, students' needs for special places for collaborative learning activities and for accomplishing complex tasks were quite high. Panacci (2015) also emphasises that active, collaborative and interactive approaches that take into consideration their own experiences and knowledge about both the content and learning are more appealing to adult students (Knowles *et al.*, 2005).

Although we have attempted to provide a comprehensive view of the experiences and perceptions of these learners, this study is also limited in several ways. The findings are based on the analysis of a single course module conducted in late autumn at one university campus. Comparisons with an analysis of additional modules with students from different disciplines, conducted in both the winter and summer seasons, but also broadening the research focus to other contexts such as different universities in other geographic and climatic locations, cultural settings and modes of university lifelong learning would contribute to the expansion and consolidation of the insights in future studies.

## CONCLUSION AND IMPLICATIONS

The design of informal learning spaces on campus that align with didactic aspects and the nature of learning activities is essential for a positive experience for learners. Our study revealed that for academic continuing education students, who bring their professional knowledge and experiences to the learning environment, a variety of structured and unstructured spaces that meet their immediate needs for different types of learning activities is of importance. Based on the findings of our case study, questions for further inter- and trans-disciplinary research arise. Experiences and expectations of adult learners regarding the physical campus environment may be different from those of traditional students. Thus, we recommend a comparative study using the same measures to collect data from traditional and continuing academic education students.

In this context, a question emerges regarding the extent to which expectations and perceptions of the physical learning space are related to defined learning objectives of the attended course or to specific learning goals of adult learners for their own purposes (e.g. career-related goals, networking or exchanging ideas and knowledge with peers). A longitudinal study could provide further insights on how students' expectations, perceptions and use of campus learning spaces change over the course of an educational programme. Furthermore, it would be of interest to examine the reasons for the observed preferences of learning spaces in the historic building, to what extent they are influenced by individual and cultural values, and in which way(s) they are related to the experience of being part of an academic tradition and community. Additional investigations could address the use and

revitalisation of historic buildings within academic continuing education and university lifelong learning.

The scientific investigation of suitable learning environments also has a direct influence on the practical pedagogical work and design of the corresponding spaces. A deeper understanding of the effects of spatial environment on learners could further inspire educators to choose a didactically conducive spatial environment or to design it accordingly. As shown in the case study, even singular modifications of furniture and equipment in a seminar room can alter the perceptions and experiences of students. In the long term, these results should be taken into consideration for the architectural design of learning spaces. It is no longer sufficient to understand a campus exclusively as a physical object; it must be seen as a multidimensional learning space that combines insights from, at least, architecture, pedagogy and psychology.

Re-imagining the learning spaces and considering the provision of more unstructured but enhanced social and cognitive engagement spaces for learners are crucial for continuing education students who visit the campus for short blocks of time during their study. The careful adaptation of historical building stock, a high-quality indoor environment, and ample supplies of adequate furniture and equipment in combination with natural elements can support the creation of stimulating learning environments. Hence, in the design and implementation of learning spaces for academic continuing education, these factors should be considered in order to provide a conducive learning environment.

## ACKNOWLEDGEMENTS

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# CONCEPT OF RESEARCH LITERACY IN ACADEMIC CONTINUING EDUCATION: A SYSTEMATIC REVIEW

**Filiz KESER ASCHENBERGER**
**Thomas PFEFFER**
Danube University Krems, AT

Email: Filiz.Keser-Aschenberger@donau-uni.ac.at

## ABSTRACT

To date, research literacy has not been studied conceptually in academic continuing education even though it has gained recognition in practice as one of competence areas that learners need to acquire. The aim of our review was to identify the concepts and competences related to research literacy in academic continuing education in order to provide a fit concept of research literacy in academic continuing education. We roughly followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement. We conducted the search in the domains of continuing education and higher education, in case of lack of research in continuing education. Our search identified in total 857 items. Based on title and abstract review, we considered 111 articles for review. After scrutinising the full-text articles, we included 72 publications for the extraction of the data and analysis. The main finding of the review is the lack of research on research literacy in continuing education. Our search did not yield any study that focused on academic continuing education. A second important finding is the lack of a comprehensive and holistic concept of research literacy, not only for continuing education, but also for higher education. Especially with the global trends and changes altering ways of production and research, it is important to provide an up to date definition of research literacy and the right set of skills and competences that meet the needs of learners in academic continuing education.

## INTRODUCTION

Literacy can be understood as the ability to read and write, or – in a more modern sense – to competently use and produce media products. Frequently, literacy is used in a binary understanding of either literate or illiterate, which would locate the development of literacy in primary schools only. In contrast to that one could accept literacy as the centrepiece of formal education, as an ability that can be increasingly improved and further developed across different stages of the formal education system. From the perspective of competencies, the sequential structure of the formal education system (e.g. primary, secondary and tertiary education; or 1st, 2nd and 3rd cycle in higher education) can be described as a way of continuous development of literacy, not just as a mere accumulation of knowledge. Literacy, in general, requires procedural knowledge - the ability to do something - as opposed to declarative knowledge - knowing of something (Venezky, 1990). Thus, in the case of research literacy it is about the skills and practice of how to conduct research and produce academic research.

Consequently, this allows us to investigate literacy at universities, in particular research or academic literacy, as a central task of higher education, not as a mere deficit of some

students. The term "research literacy" therefore especially refers to tertiary education, the highest level of the formal education system. This makes it clear that research literacy should be a concern of every higher education institution, especially in times when the digital transformation influences and changes the relevant media formats and ways of academic communication.

In a similar vein, research literacy also constitutes one of the core competences of academic continuing education. Even if definitions vary across countries, university continuing education can be defined as learning "at university level and [as] research-based"[5], and it "includes all initiatives aiming at updating, broadening or specialising knowledge, skills and/or competences" (Baert *et al.*, 2017, p. 18). Especially in German speaking countries, continuing education offerings by the universities have been increasing. Gornik (2019) categorizes these offerings under the following groups: individual seminars without ECTS; free continuing education series; summer courses; university courses without degree; corporate programs; ECTS-based certificate courses; ECTS-based individual seminars; and academic expertise programs. Beside these offers, there are formal university continuing education offerings that lead to a Bachelors or Masters degree and which can be identified as "academic continuing education" where students are expected to plan, conduct and report research at the post-graduate level in order to graduate.

Compared to traditional students, who enter college immediately (or, at least, soon) after high school, and which tend to enrol at university in their early twenties, continuing education students tend to be much older with professional experience and family responsibilities. For example, in the case of Danube University Krems, a specialized university in academic continuing education in Austria, the average age of new entrants is approximately 40 years (Dornmayr *et al.*, 2017, p. 13). Due to permeability and assessment and recognition of prior learning, students without an academic background can be admitted to academic continuing education programmes. They represent a diverse and unequal prior experience (Long, 2004). Hence, research literacy plays a crucial role in academic continuing education considering the diversity of students' competences (academic and non-academic). We do not know how research literacy is defined and which skill sets are targeted at the academic continuing education programs for these special target group and these special programmes.

This paper is part of a project which aimed to investigate the research literacy competences of academic continuing education students in Austria. We wanted to examine the skills and competences in research literacy in academic continuing education, and how students and lecturers evaluate these skills and competences for themselves. Our preliminary search for a conceptual and theoretical framework indicated that research literacy in academic continuing education has not been touched upon, while it is more commonly investigated in higher education level (see studies from Gee, 1996; Lea & Street; 1998; Lillis & Scout, 2007; Van Dyk & Weideman, 2004a). Thus, we conducted a systematic review to thoroughly scan the literature and set the stage for further research on research literacy. The aims of our review were to identify the concepts and area of competences related to research literacy in academic continuing education; to provide a clear conceptual and theoretical understanding of the concept as well as the sub-skills and competences attributed to research literacy, and to guide lecturers and administrative staff involved in academic continuing education in their practice of designing and delivering academic and research literacy.

## METHOD

This study was designed as a systematic literature review. Details of the methodology are presented in the following part.

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[5] EUCEN-website: http://www.eucen.eu/aims-and-objectives/

## Design

A systematic literature review is a review of *"a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research and to collect and analyse data from the studies that are included in the review"* (Moher, Liberati, Tetzlaff & Altman, 2009, p. 264). This approach was adopted as it provides a clear, accurate and reliable framework for conducting a review on "research literacy". The current review roughly followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement (Moher *et al*, 2009). We did not conduct quality appraisal as we aimed at examining the theoretical and conceptual aspects concerning "research literacy in continuing education". *Figure 1* presents the seven steps of the systematic review.



1: Identifying the research questions that will guide the review

2: Identifying key words for search

3: Identifying the databases

4: Identifying inclusion crtieria

5: Selecting relevant studies (based on full text)

6: Reviewing the publications and analysing the terms and characteristics

7: Reporting the results from relevant publications
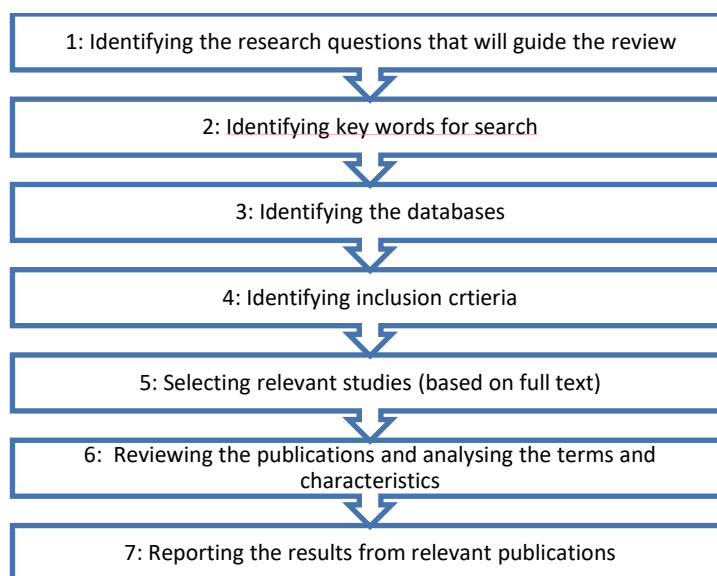
*Figure 1. Steps in our systematic review according to PRISMA guideline*

## Research Questions

As the first step, we identified our research questions that would guide the review. Based on our initial discussions and preliminary literature search we determined six research questions. Our systematic review addressed the following questions:

1) How is "research literacy" defined in the literature?
2) What types of studies exist on research literacy that can be related to continuing/ higher education (and/or professional occupations)?
3) Which sub-literacies, skills and competencies can be ascribed to research literacy?
4) Which measurement tools exist in the literature to study research literacy? How is research literacy measured?
5) Which theories and concepts are used to study research literacies?
6) Which disciplines, fields and actors deal with questions of research literacy?

## Search Terms

After the initial literature search, a list of search terms was formed according to education level and concept of research literacy. The initial list of search terms was altered after the pilot search. For example, "study skills" and "learning skills" did not yield results related to the concept of research literacy, as well as "lifelong learning". These key words were removed from the list.

Moreover, "information literacy" was also removed due to the large number of unrelated articles. We focused on the concept of academic and research literacy as the generic term and did not include sub-competences such as academic writing, academic reading. *Table 1* presents the list of the search terms.

We separated the level of education for our search as we wanted to see first the studies in the area of continuing education. Another search was conducted with the higher education search terms.

| | |
|---|---|
| **Level of education #1** | **continuing education**<br>**adult education**<br>**postgraduate education**<br>**further education**<br>**non-formal education**<br>**adult training, adult education** |
| **Level of education #1a** | higher education<br>university<br>college |
| **Key Concepts #2** | research literacy<br>academic skill*<br>academic literacy*ies<br>research skill*<br>academic competence |

*Table 1. List of search terms*

## Search Strategy

For this review, the Web of Science with all database options was used. After pilot searches in some databases, we decided that Web of Science was the most comprehensive database, including several of the most important citation databases in education and social sciences such as Science-Citation index Expanded, Social Sciences Citation Index, Arts & Humanities Citation Index, Conference Proceedings Citation Index, Emerging Sources Citation Index, and many more. Scopus and Web of Science had a high degree of overlap, therefore Scopus is not included in the list of databases.

The search was conducted using Boolean operators AND and OR. First, the key word search for education level was conducted and then the key words for the concept of research literacy. As a third step, these two searches were combined. Search results are presented in *Table 2*.

| Database searched | Search terms | Filters applied | # of records retrieved | # of records included after abstract screening | # of records included in the full-text screening |
|---|---|---|---|---|---|
| **Web of Science** | #1 and #2 | 2020-2015 | 319 | 19 | 3 |
| **Web of Science** | #1a and 2 | 2020-2015 | 538 | 92 | 69 |
| **Total studies** | | | 857 | 111 | 72 |

*Table 2. Search strategy and results*

## Selection Criteria

A review guide and table for inclusion criteria were developed by the research team. While creating the inclusion criteria we focused on the concepts that are closest to the research questions. Concepts such as "lifelong learning" or "media literacy" are excluded as they are too generic. *Table 3* presents the criteria for the inclusion of relevant studies. These criteria were followed both at the abstract screening and full-text screening stages.

| Criterion type | Inclusion criteria |
| --- | --- |
| Topic | research literacy, academic literacy studies focused on continuing education, adult education, postgraduate education, or higher education/university<br>NOT: study skills, learning skills, generic skills, lifelong learning, academic writing, information literacy, academic writing, academic reading, media literacy |
| Recency/dates | 2015-2020 |
| Age-range/sample | continuing education/university students/new entrants/post graduate education |
| Language | English |
| Research base | All empirical studies (theoretical, quantitative, qualitative, mixed case) |
| Type of publication | Peer-reviewed articles, book chapters, project reports, thesis, conference proceedings |

*Table 3. Inclusion criteria for the review*

## Study Selection

The study selection was conducted in three steps. First, titles of all the articles were screened according to the inclusion criteria listed above. Then, as the second step, abstracts were screened for eligibility using the same criteria. The full-texts of included articles were retrieved. At this stage some of the articles were excluded due to the language in which they were written, as some of the articles that emerged with English abstracts turned out to be written in another language. As the last step, full texts were screened and the required information was retrieved. The following information was extracted from each article: name of the author(s), year of publication, country, the purpose, type of publication, research design, data collection methods, definition of key concept, key skills, measurement tools/scales used, theories adopted, concepts adopted, and discipline/area. Not all of the articles yielded all the necessary information.

## RESULTS

In total, our search identified 857 citations after exclusion of duplicates. Based on title and abstract review, we considered 111 articles for review out of 857. After scrutinising the full-text articles, we included 72 publications for the extraction of data.

### Study Characteristics

The tables below present the basic characteristics of the publications in the study. Publications were mainly articles from peer-reviewed journals (see *Table 4*). Those that lacked full-texts were mainly conference proceedings.

| Type of publication | n |
|---|---|
| Peer-reviewed article | 67 |
| Commentary | 1 |
| Conference proceeding | 2 |
| Editorial | 1 |
| Study book | 1 |
| Total | 72 |

*Table 4. Number of texts by type of publication*

One of our search criteria was recency and we focused on the last five years to be able to have a more current look at the literature. Most of the publications were published during the last two years (see *Table 5*).

| Year | n |
|---|---|
| 2015 | 8 |
| 2016 | 12 |
| 2017 | 15 |
| 2018 | 20 |
| 2019 | 17 |
| Total | 72 |

*Table 5. Number of texts by year of publication*

Another interesting feature of the publications included in the review is that the majority of the publications originated in South Africa and Australia (see *Table 6*). It is clear that there is a rich context and community that works on research literacy and academic literacy in higher education in these countries.

| Country | n |
|---|---|
| Australia | 13 |
| Bostwana | 1 |
| Canada | 2 |
| Chile | 1 |
| China | 1 |
| Denmark | 1 |
| Ecuador | 1 |
| Fiji Islands | 1 |
| Germany | 4 |
| Indonesia | 1 |
| Israel | 1 |
| Lebanon | 1 |
| New Zealand | 3 |
| Portugal | 2 |
| Russia | 1 |
| Singapore | 1 |
| South Africa | 20 |
| Spain | 3 |

| | |
|---|---|
| Sweden | 1 |
| UK | 8 |
| USA | 5 |
| **Total** | **72** |

*Table 6. Number of texts by country of origin*

## Definitions of Research Literacy

The first research question addresses the conceptualisation of the term "research literacy". It is important to note that not every publication provided a clear definition of the key concepts they work with. Thus, analysis was conducted on the articles that provide a clear definition of research literacy.

Our analysis indicated that "academic literacy" is widely used in comparison to "research literacy" in the literature. In our full text review, only seven of the 72 articles were based on the concept of "research literacy". "Academic literacy" is more comprehensive in terms of the skills and competences it focuses on as well. Thus, we mainly used the term "academic literacy" for reporting the results.

Our review of the literature indicated that it is a complex task to define academic literacy. There exist several different conceptualisations based on contrasting theoretical frameworks. Lea and Street (1998) present a useful classification of three views that also serves our purpose. The first group views academic literacy as normative, unitary and monolithic which is based on a generic set of skills that students have to master in order to be successful in "academic" life. This traditional approach to academic literacy is neutral and uncritical of the complex nature of academic literacy as well as its relation to identity, power, class and inequality (see Bourdieu, 1991, and Gee, 1996 regarding academic discourse, habitus and competences). This approach is called the "study skills" approach (see Lea and Street, 1998), and the focus is on the technical and instrumental skills such as grammar and spelling. In this approach, academic literacy is considered as an "autonomous" subject to teach.

The second approach to academic literacy is built on the idea of multiple literacies and multimodalities as well as a sociocultural lens, which emphasises the dynamic and contested nature of academic literacy. In this approach, the plural version of the term "academic literacies" is preferred to underline the epistemological differentiation to its singular counterpart. It is based on "new literacy studies"; critical discourse analysis; systemic functional linguistics; and cultural anthropology. They discuss the meaning making, identity, and power issues especially at the legitimate knowledge to teach/learn and views academic literacy as a "social practice". It also takes into consideration that there are other types of literacies, which are not limited to words, such as numeracy and visual literacy.

The third conceptualisation is called "academic socialisation". In this approach, academic literacy is seen as an acculturating process through which students acquire the necessary skills to adapt to academic culture. This distinction emerged from our review as well. Not every article provided a clear definition or a conceptual framework, but based on the ones provided we classified the definition into three categories (see *Table 7*) following Lea and Street's (1998) classification: study skills, academic socialisation and academic literacies.

| Definitions in different categories | Publication |
|---|---|
| **Study skills approach** | |
| *The focus of this discussion, however, will be academic literacy, the ability to use language competently in higher education….* | Weideman, 2019, p. 35 |
| *For the purposes of this article, "literacy" refers to a student's ability to read English texts fluently and with comprehension, write English texts coherently, synthesise different information sources and offer a critical awareness of the information at a grade-appropriate level to ensure access to knowledge and success in education (UNESCO, 2011).* | Millin, 2015, p. 107 |
| **Academic socialisation approach** | |
| *The term "academic literacy/ies" in this paper follows Wingate's definition: "the ability to communicate competently in an academic discourse community" (Wingate 2015, p. 6). It includes attention to the conventions and communicative purposes of Year 1 essays in particular disciplinary contexts; however, it did not focus on issues of identity and power relations as found in literature from the United Kingdom.* | Wette, 2019, p. 36 |
| *Developing academic literacy involves harnessing both the linguistic tools and the conceptual tools that organize the social activity of academic life. In this sense, developing academic literacy can be understood as acculturating into the social language that enables legitimate participation in formal academic settings* | Imbrenda, 2018, p. 319 |
| *Academic literacy, the ability to cope with the demands of academic discourse in the language of teaching and learning* | Sebolai, 2018, p. 58 |
| **Academic literacies approach** | |
| *Although many definitions and interpretations of 'academic literacy' have been offered by theorists in the field, this study draws on Lea and Street's (1998: 160) view that "academic literacy in higher education points to reading and writing in the different disciplines where such reading and writing constitute the central process through which students learn new subjects and develop their knowledge* | Scholtz, 2019, p. 107 |
| *The concept of academic literacy has a number of interpretations. However, this study uses the concept of academic literacies (plural) as outlined (Street in Baker, Clay & Fox 1996, p. 118): "Academic writing is not a single thing but an aggregation of literacy practices that make, and are made, by the epistemologies and practices (including the use of power) of specific disciplines and other institutional formations; that it mediates identity struggles; that it is largely transparent to instructors socialised in a discipline, assumed; that technical solutions such as study skills do not get at the problem"* | Hackmack, 2019, p. 1 |
| *The article draws on an understanding of academic literacy as a local practice situated in the social and institutional contexts in which it appears* | Clemensen & Holm, 2017, p. 34 |
| *To do so, the article develops an analytical framework by synthesizing and extending the concept of literacy practice based on insights from NLS, AcLits, and practice theory as proposed by the philosopher Theodore Schatzki (1996).* | Kaufhold, 2017, p. 74 |

| Other terms (research literacy, social-scientific research competence, educational research literacy) | |
|---|---|
| *'Research literacy' (RL) includes the acquisition of information access and retrieval skills, and more importantly it emphasises "the learning of discursive practices within the context of an academic discipline" (Simmons, 2005, p. 299).* | Han & Schuurmans-Stekhoven, 2017, p. 31 |
| *The definition of social-scientific RC used in the present paper bears on an understanding of competency as "domain-specific cognitive dispositions that are required to successfully cope with certain situations or tasks, and that are acquired by learning processes" (Koeppen, Hartig, Klieme, & Leutner, 2008, p. 68). Accordingly, RC is defined as cognitive dispositions that are required to successfully cope with situations or tasks in empirical social-scientific research, and that are acquired in higher education learning processes.* | Gess, Geiger, & Ziegler, 2019, p. 738 |
| *Educational research literacy can be defined as the ability to purposefully access, comprehend, and reflect on scientific information, as well as to apply resulting conclusions to problems. When making educational decisions, this ability is referred to as Educational Research Literacy (ERL; cf., Shank & Brown, 2007).* | Groß Ophoff, Schladitz, & Wirtz, 2017, p. 39 |

*Table 7. Categories of definitions of academic literacy*

Our review showed that the conceptual terrain of academic literacy is quite fragmented, and it is not possible to indicate one single comprehensive definition. Moreover, in line with this conceptual fragmentation, the practices are also fragmented. Some institutions adopt the single subject approach, while others prefer an embedded approach where academic literacy is taught within/along with the discipline specific subjects and courses. It depends on the institutional policies, goals and values as well as the academic culture of the institution.

Another important result regarding definitions of academic literacy is that a traditional and monolithic approach to academic literacy has not been adopted, while multi-literacy approaches and socio-cultural views gain importance. It can be concluded that academic literacy is not one single set of skills that one can teach/learn in distinct modules. Moreover, it is not only about writing and reading, but it is about communication, different genres of academic production as well as different modes of production parallel to global trends and drivers.

## Methodological Aspect of the Studies

From a methodological perspective, there is no clear tendency concerning the dominant methodological framework. Even though the majority of the publications used a qualitative approach, other approaches including quantitative and mixed methods were also applied (see *Table 8*).

| | |
|---|---|
| Mixed methods | 15 |
| Qualitative | 25 |
| Quantitative | 19 |
| Review | 8 |
| Not clear/not available | 5 |
| **Total** | **72** |

*Table 8. Number of texts according to applied research methodology*

The most widely used method for data collection is a questionnaire/survey, followed by individual interviews or focus groups (see *Figure 2*). A common research practice is the use of assessment tests to measure students' level of academic literacy. Studies from South Africa especially adopted Test of Academic Literacy Levels (TALL) and Test of Academic Literacy for Postgraduate Students (TALPS) (see du Plessis, 2016; Nizonkiza & van Dyk, 2015; Sebolai, 2018). These two tests are used nationwide to measure students' academic skills. Another group of studies draw on pre-test/post-test design and try to measure the effectiveness of intervention programmes to improve academic literacy (Han & Schuurmans-Stekhoven, 2016; Lear, Li & Prentice, 2016). Another group of studies analyses student data, such as writing samples, essays or exam papers. The majority of the studies collected data through multiple data collection methods. Most of the studies target students/learners, while a few of them focus on the perspective of the lecturers/teachers/programme coordinators (see Stebbing, Shelley, Warnes, & McMaster, 2019; Marshall & Walsh Marr, 2018).
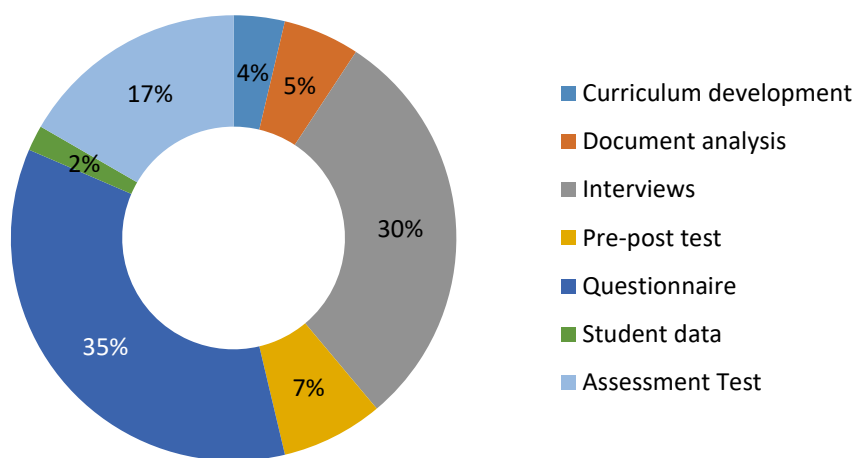


Note: n=59, Review articles and those marked as "Not clear/Not available" are excluded here

*Figure 2. Data collection methods*

## Sub-skills Ascribed to Research Literacy

Sub-literacies, skills, and competencies that were studied are also as complex as the definition of the concept. Several lists of skills and competences were identified as sub-skills comprising academic literacy. We classified these skills under eight competency areas. *Table 9* presents these areas and the number of the studies that mention or list these areas as sub-competencies or skills of academic literacy.

| Skills | n |
|---|---|
| Writing | 20 |
| Information literacy | 16 |
| Reading | 14 |
| Visual literacy | 9 |
| Critical literacy/thinking/analysis | 9 |
| Numeracy | 5 |
| Digital/media / technology | 5 |
| Oral literacy /academic speaking | 4 |
| **Total** | **82** |

*Table 9. Frequencies of sub-competencies mentioned in the publications*

The most dominant sub-literacy is writing. Considering the origins and historical development of the literacy concept and academic literacy, writing and academic language is still the most emphasised competence area. Twenty studies focus on academic writing to examine academic literacy. Vocabulary, grammar, right use of words and organisation and structure of academic texts are among the writing skills. Plagiarism, paraphrasing and referencing were identified only in two studies. Information literacy is another important sub-literacy. In particular, reaching and accessing information and critically evaluating this information are mentioned several times. Fourteen studies list reading as one of the sub-skills of academic literacy. A few studies focused only on reading as the main area of analysis. Nevertheless, parallel to writing, reading is also an inherent part of several conceptualisations of the academic literacy. "New literacies", such as visual literacies, media literacy and technology related literacies (Pfeffer, 2014, pp. 12-13) are also becoming popular. The study from Marzal, Cruz-Palacios, & Castros Morales (2019) is a good example of recent attempts to programme development for integrating visual literacy into the higher education curriculum as part of academic literacy. In contrast to emerging ICT based literacies, publication and dissemination skills were listed only in two studies. Moreover, collaborative learning/writing is listed as a skill in one article only.

Among the skill and competence models described and adopted in the studies, one model is cited four times. Thus, we wanted to present this model distinctively. Van Dyk and Weideman (2004a, p. 10) listed the following ten competencies as the core of academic literacy:

1. Understand a range of academic vocabulary in context;
2. Interpret and use metaphor and idiom, and perceive connotation, word play and ambiguity;
3. Understand relations between different parts of a text, be aware of the logical development of (an academic) text, via introductions to conclusions, and know how to use language that serves to make the different parts of a text hang together;
4. Interpret different kinds of text type (genre), and show sensitivity for the meaning that they convey, and the audience that they are aimed at;
5. Interpret, use and produce information presented in graphic or visual format;
6. Make distinctions between essential and non-essential information, fact and opinion, propositions and arguments; distinguish between cause and effect, classify, categorise and handle data that make comparisons;
7. See sequence and order, do simple numerical estimations and computations that are relevant to academic information, that allow comparisons to be made, and can be applied for the purposes of an argument;
8. Know what counts as evidence for an argument, extrapolate from information by making inferences, and apply the information or its implications to other cases than the one at hand;
9. Understand the communicative function of various ways of expression in academic language (such as defining, providing examples, arguing); and
10. Make meaning (e.g., of an academic text) beyond the level of the sentence.

This model was used as a base for the development of TALL and TALPS tests which assess the academic literacy level of university students in South Africa.

## Measurement of Research Literacy

Our review yielded some tools to measure and assess academic literacy. A list of the measurements and their constructs are presented in *Table 10*.

| The Tool | General information | Developed by / cited in |
|---|---|---|
| *Test for Academic Literacy Levels (TALL)* | It consists of 100 multiple choice questions from a set of seven subtests as indicated in<br>1. Scrambled text<br>2. Vocabulary knowledge<br>3. Verbal reasoning<br>4. Interpreting graphs and visual information<br>5. Register and text type<br>6. Text comprehension<br>7. Grammar and Text relations | Van Dyk and Weideman (2004a, 2004b) (cited Sebolai, 2018) |
| *Test of Academic Literacy for Postgraduate Students (TALPS)* | TALPS is very similar to TALL and is constructed on the same theoretical and conceptual framework but it is adapted for postgraduate students. | Cited in du Plessis, 2016 |
| *Research Literacy Self-Efficacy Scale (RLSES)* | | Kurbanoglu *et al.*, 2006 (cited in Han & Schuurmans-Stekhoven, 2016) |
| *Educational Research Literacy (ERL)* | Measuring the research literacy skills of students in the faculty of education | Groß Ophoff, Wolf, Schladitz & Wirtz, (2017) |
| *Measuring the Academic Skills of University Students (MASUS)* | The MASUS is composed of four elements:<br>1. use of source material,<br>2. structure and development of answer<br>3. writing style<br>4. grammatical correctness | Bonnano & Jones 2007 (cited in Palmer, Levett-Jones & Smith, 2018) |
| *AL Test for National Benchmark Tests* | The nine sub-constructs of the benchmark test are:<br>1. Separating essential from less essential information<br>2. Extrapolation, inferencing and application<br>3. Academic discourse features<br>4. Metaphorical and analogous language<br>5. Academic and general vocabulary<br>6. Text genre<br>7. Grammar and syntax<br>8. Textual cohesion features<br>9. Communicative purpose | see Sebolai, 2016 |
| *Social-Scientific Research Competency Test* | Three knowledge domains were identified for the test<br>1. research process knowledge<br>2. knowledge of research methods<br>3. knowledge of methodologies | see Gess, Geiger, & Ziegler, 2019 |

*Table 10. Measurement Tools*

Among these tools, TALL was the most widely used assessment tool. One reason for this is that it is a compulsory test for higher education candidates in South Africa (see Sebolai, 2018 for a sample study based on TALL).

## Theories Used to Study Research Literacy

Our review analysed the theoretical background of the studies as well. Two dominant frameworks are identified. The first one is the "New Literacy Studies" or "Academic literacies" movement. Within this movement, Lea and Street (1998) are the most frequently cited authors, followed by Lillis and Scout (2007). The second dominant framework is the "Discourses" model which originated from Bourdieu and Passeron's "academic discourse", "habitus" and "competence" discussion. Within this model Gee (1996) is the mostly cited author.

Other theoretical frameworks that were adopted in the studies are: Van Dyk and Weideman (2004), Wingate (2015), the Research Skill Development (RSD) framework (Willison & O'Regan, 2018), theory of systemic functional linguistics (SFL) (Halliday & Matthiessen, 2004), the information literacy integration model (Wang, 2011), self-efficacy (Bandura, 1986), and Skehan's (1998) socio-cognitive model of communicative competence.

## Disciplines, Fields and Actors Dealing with Research Literacy

Only a small number of studies had a specific discipline as the context of the research. The majority of the studies were conducted in educational sciences and health sciences, nursing and population health. *Table 11* presents the disciplines and the number of studies contextualised in these disciplines.

| Discipline | n |
|---|---|
| Nursing | 4 |
| Population Health | 2 |
| Education | 6 |
| Engineering | 4 |
| Business | 1 |
| Several disciplines | 2 |
| Total | 19 |

*Table 11. Disciplines as context for research literacy, if specified*

## DISCUSSION AND CONCLUSION

It is important to note that our systematic literature review did not appraise the quality of the studies reviewed. We focused mainly on the conceptual and theoretical framework that is used in the research/academic literacy studies to form a basis for our own definition. The main finding of the review for us is the lack of research in continuing education. Our search did not yield any single study that focused on academic continuing education. A second important finding is the lack of a comprehensive and holistic concept of academic literacy, not only for continuing education, but also for higher education. Especially with global trends and changes altering ways of production and research, it is important to provide an up-to-date definition of academic literacy and the right set of skills and competences. Participation in academic continuing education has been increasing significantly (Kulhanek *et al*., 2019) in line with the more permeable, open and flexible educational offerings for adult learners at higher education institutions.

To understand the specialities and complexities of this group, and designing the learning outcomes accordingly, is becoming crucial. This takes us to the next step for further research which is to develop a research literacy framework to specifically focus on the complexities and the diversities of academic continuing education and to help practitioners develop a holistic and complete approach in teaching research literacy.

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# NETWORKING AND STUDENT COLLABORATION IN TIMES OF VIRTUALIZED CONTACTS: WORKING OUT LOUD AS A METHOD TO PROMOTE GROUP COHESION

**Nicole ONDRUSCH**
**Sahnas PREMNAVAS**
Heilbronn University of Applied Science, DE

**Julia SCHOENBRUNN**
University of Greenwich, UK

Email: nicole.ondrusch@hs-heilbronn.de

## ABSTRACT

Prior to Covid-19, virtual teams and digital collaboration were not well established in higher education. The need for more methodical support to guide students through new group processes in a digital world is now rising. Although students are very familiar with the use of technologies for virtual meetings and sessions, for example from their private environment, and teamwork has also become an integral part of their studies, the past semester has shown that especially students in their first semesters need to be supported when working in virtual teams, building networks and helping each other in a digital environment. In this article, we introduce Working Out Loud (WOL) as a method to support students in their collaboration in virtual teams. We applied WOL to the cooperation of students in two different courses and examined the benefits in terms of group bonding, self-organization, reflective behaviour and goal pursuit. The results of this research are presented here.

## INTRODUCTION & MOTIVATION – WOL IN EDUCATIONAL SETTINGS

Recent semesters with a significant increase in online lectures and virtual collaboration in teams show the need for a methodical support of students in building teams and forming virtual networks. Working Out Loud (WOL) is a method developed by John Stepper (Stepper, Working Out Loud, 2020), that is used successfully in companies to network employees and to guide them towards cooperative, appreciative and reflective cooperation. WOL thus could be a method for supporting students in their online semesters to build virtual teams, to learn to be self-organized in cooperation with a network, to reflect their own work and to expose and reach their own goals. At Heilbronn University of Applied Sciences, we applied WOL to a freshman course in a Bachelor in Software Engineering (BA), and to a first semester of a Masters course in International Business and Intercultural Management & International Tourism Management (MA). WOL is based on a weekly one-hour meeting (circle) of the group over 12 weeks, led by circle guides - documents that structure the meetings and organise them with tasks and instructions. In these meetings, participants choose individual goals, support each other in achieving them, build networks with people outside and inside their own circle and reflect on many personal details. Our semester groups applied WOL for these 12 weeks, supported by the circle guides and (in the case of BA students) tutors.

With our application, we were interested in understanding how WOL can help students in the above-mentioned way and how they manage to apply WOL. We also wanted to see whether there were any differences in the method's applicability when applied to the undergraduate versus the postgraduate course. In order to evaluate these questions, we have collected data from student's surveys, observations, reflective papers and workshops with our tutors while applying WOL.

In this report, we introduce WOL as a method and place it in the context of agile learning and building group cohesion in higher education. We will show our results in using WOL in a Bachelor's and a Master's course, discuss the achievement of our objectives, and propose some adaptations to meet the requirements, especially for first year BA students. Furthermore, we will outline our future research on those adaptations and interactive learning sequences for students.

## INTRODUCTION TO WOL AND ITS RESEARCH CONTEXT

Continuous change requires continuous learning. With the transition from the industrial to the knowledge-based digital age, lifelong learning has been identified as a key skill and attitude for individuals and organizations to thrive in the digital age (Serrat, 2017). As the foundation of learning requires skills that are non-academic (Dweck, 2015), a need for agile education, i.e. teaching in iterative steps with the building of active, self-organized learners, and teaching that includes methods and opportunities for students to (self-)develop the required digital age skill set, such as peer learning and building networks, has been identified (e.g. Cubric, 2013; Kamat, 2012; Krehbiel et al., 2017). Working Out Loud (WOL) can be categorized as another agile method of learning and self-development. However, there is a lack of scientific research into the usage of WOL and its benefits for students in higher education. With our work, we hope to contribute to a better understanding of the possibilities of WOL in this context and in addition show its relationships to other similar ideas.

Literature on teaching students 21st century skills provide lots of ideas for reforming (or not) curricula and methodologies (project based, experience based, …) of teaching or testing (e.g. Bellanca & Brandt, 2010; Bell, 2010). Self-organized learning, critical thinking and reflections, the pursuit and achievement of objectives, and working in groups seem to be crucial in these discussions. Agile learning methods (e.g. Stern, 2019; Lang, 2017) like LearnOS or EduScrum (e.g. Wijnands *et al.* 2015; Wijnands & Stolze, 2019) came into focus in university learning to meet the need for the aforementioned goals. They establish rituals, events and roles to support self-organized learning, goal-oriented group work and critical reflection. Among them are weekly meetings for group planning, methodically guided retrospectives (on individual and group work), or such elements as learning diaries or backlogs.

WOL is a method that helps individuals to achieve self-chosen goals, to reflect their own work and to support others in a group setting of 3-6 people (so-called circles) over a period of 12 weeks. The WOL method, with a mix of individual and group development elements, draws on well-established psychological and sociological theories. Firstly, the autonomy to select a self-chosen goal increases intrinsic motivation and engagement (self-determination theory) (Deci *et al.*, 1991; Deci & Ryan, 1985). In addition, WOL promotes the establishment of a so-called growth mindset (Dweck, 2015), with the aim of learning and believing in the ability of continuous progress through sticking to a goal, also with the support of peer circle members. Secondly, through regular group meetings, WOL promotes group cohesion and bonding over time (Baumeister & Leary, 1995; Evans & Dion, 1991). Through sharing one's goal with a small group and experiencing the WOL learning journey together, ties amongst group members are built up and a psychological safe space, where drawbacks and success can be shared, is created (Schulte *et al.*, 2012). Furthermore, the weekly WOL tasks guide participants in the creation of goal related relationships (e.g. to others working on a similar

goal) outside of their WOL circle with the aim of network building and thus increasing one's social capital (Coleman, 1990). WOL combines relationship building activities with the development of social skills (communication styles, self-reflection) to achieve individual goals (Baron & Markman, 2000).

The WOL method provides open-source circle learning guides with activities that lead the small groups over 12 weeks in weekly one-hour meetings. Here, the achievement of the goals of each circle participant is discussed and the group members support each other in achieving their goals. In addition, circle members learn with the assigned weekly tasks in the provided circle guides how to build a network, articulate appreciation, work together, and experience peer coaching and support first-hand. The guides are provided in an online workbook (Working Out Loud, 2021). The WOL method has gained popularity within organizations as an instrument for cultural change and to enhance informal structures for collective learning beyond departmental structures (Schmidt, 2019). WOL in an education context has only recently gained attention with few reports on the method in higher education (Huber, 2020). The emerging WOL education community, including founder John Stepper, is starting to compile first insights into the application of this approach in a classroom setting, and this paper seeks to contribute to these initial insights.

## CASE SETTING & OBJECTIVES - WOL IN UNIVERSITY CLASSROOMS

WOL promises to support our objectives in supporting our student teams (Aten, Nardon, & Stanko, 2016) in their virtual collaboration. These objectives are:

- Increasing group bonding, especially in virtual teams of students that don't know each other at all or very little, which is often the case in the earlier semesters of a course.
- Promotion of growth and learning-oriented thinking in our students through mutual help and support.
- Development of self-organized and targeted learning in cooperation with a network within a complex and digitized working environment (VUCA).
- Increasing the students' ability to reflect – on own progress in learning as well as the individual perception of group structures and emotions.
- Learning to expose own goals, ideas or projects - in social media, as well as in online or hybrid events.

To learn more about WOL in a university context and evaluate the achievement of these objectives we applied the method to two courses with students at Heilbronn University of Applied Sciences, Germany. In the 2020/21 winter semester, we tested the application of WOL in a freshman course in a Bachelor in Software Engineering and in a first semester Masters course in International Business and Intercultural Management & International Tourism Management. The backgrounds of the students are different. The majority of the Bachelor students come directly from post-primary school education, but nearly a third of them have already completed vocational training and have decided to undertake further study. Approximately 50% of the Masters students were international students and the vast majority of students had prior work experience, at least in the form of internships. With this application we were interested in the following research questions:

- Does WOL meet our above-mentioned objectives?
- How do the students manage to apply the method WOL?
- Are there any differences in the method's applicability to the BA vs MA students?
- Do content or procedures of WOL have to be adapted? If yes, in which form?

Prior to looking at our experiences and the answers to our research questions, details of both course settings are described in the table below.

We will refer to courses as the Bachelors (BA) and the Masters (MA) course. The course settings are crucial in the final discussion of the results.

| | Bachelors Course / IT faculty | Masters Course / Business School |
|---|---|---|
| **Major** | Software Engineering | International Business and Intercultural Management & International Tourism Management |
| **Lecture and Context** | Lecture on techniques for studies and work - first semester course with students starting their studies after school or apprenticeship | First semester, business studies course focusing on organizational challenges faced by megatrends, required transformation management and agile work |
| **Setting** | Online lecture (1.5 hr. per week, lecturer) & online circles (1 hr. per week, tutors) Short introduction to WOL and its aims at the beginning of the lecture, tutors for each WOL circle to help organizing and give hints | Online lectures with weekly 1 hr. online circles slots dedicated to WOL, pit stop events (guest lectures) and WOL related theories embedded into course content (lecturer) |
| **Circles** | 3-5 members, grouped by the lecturer on a short personal test (students do not know each other since it was their first semester) | 4-5 members, grouped by lecturer to avoid homophily effects and guarantee high level of group diversity (major, nationality, gender) |
| **Numbers** | 16 Circles, 65 students | 10 circles, 47 students |

The students were free to choose their personal goal to experience first-hand the increased intrinsic motivation deriving from a self-determined goal (Deci *et al.*, 1991). However, to give students some context and ideas to think about a goal, they were encouraged to choose a goal related to their studies or future career (e.g. topic related to thesis or potential future occupation). It was stressed however that they should pick a goal which they truly cared about. To support students with the goal finding stage an in-class 'personal purpose' exercise, based on the hedgehog method by Collins (2001), was conducted in the Masters course. It gave students the opportunity to self-reflect on areas in which they wanted to pursue further learning.

## DATA COLLECTION AND MODES OF ACTION

Due to the exploratory nature of the study, we chose different methods of data collection in the two courses. On the one hand, this is due to the different requirements in the lectures and, on the other hand, to allow for triangulation of our data (Creswell, 2014) for obtaining a broad and comprehensive picture of the use of WOL in the university context. Data was collected in the form of two surveys, narratives from workshops and observations (BA course) and students' written reflections of their WOL experience (MA course).

In the Bachelor's course two surveys in the form of questionnaires with open-ended questions were carried out. Students filled the first questionnaire in weeks 6 and 7 of the implementation of WOL and the second questionnaire in weeks 12 after implementation of WOL in the course. The first questionnaire dealt with the understanding of WOL and their initial experiences of WOL. Here we wanted to understand how students accepted and implemented WOL as a method. Specifically, we focused on the student's choice and pursuit of goals, and on getting along with the guides. We were interested in how the exercises were carried out. We also wanted to know how the cooperation and group support in the circle worked and how students networked (on social media and in the group). In the second survey, we asked students to reflect on what they had experienced - regarding the choice of their goal, working together in a team, their own learning success, networking, and the use of the guide. The circles in the Bachelor's course were accompanied by tutors. They supported

their circle individually, there were circles that did not need any support and held the meetings independently and others in which the tutor moderated and supported. In between there were various options, so individual tutors chose moderators each week or jumped into circles at several times to offer support. We asked the tutors to write down their observations from each circle and evaluated the collection of all these notes. In addition, we held three workshops with the tutors, in which we talked about their experiences with the circles, possible adjustments and useful tips in supporting the circles. We have also documented these results. The last central point of our data collection were observations. We were sure that observations by the lecturer would lead to adjustments in behaviour in the circles. The two weekly observations would be carried out in alternating circles by a Bachelors student who also documented these results in a standardized format in a template. Due to the setting of an online event, this observation was very discreet and the students hardly noticed.

Data collection on the Master's course draws on exploratory narrative research, based on individual and group reflection activities (Connelly & Clandinin, 1990; Gudmundsdottir, 2001). Students reported on their personal experience with the WOL method in a reflective essay and reviewed the 12-week WOL group experience in their respective group by conducting a retrospective exercise, including a summary of perceived positive and negative aspects of the method in the context of their course. Each week the groups did a short reflection and check-in with peer students and the lecturer to make sure no one is left behind during the WOL learning journey. Narratives and personal stories related to WOL were collected. The qualitative data was analysed with a general inductive approach (Thomas, 2003; 2006). The content analysis consisted of familiarization with the data through multiple readings, data reduction and generation of initial codes, searches for themes, and finally reviewing the themes which led to overachieving themes (Braun & Clarke, 2006). Two overachieving themes derived, namely the group process experience in general (cohesion) and the development of a more open and cooperative mindset.

## FINDINGS – EVALUATION OF APPLICATION OF WOL IN UNIVERSITY CONTEXT

In this section we will discuss our results on the application of WOL on a Bachelor's and a Master's course. We will outline in which form we have achieved or set objectives and what we and our students have learnt from one semester of WOL.

Prior to the discussion of findings in terms of our research objectives, we briefly outline student's self-chosen goals. We could identify three clusters. The first cluster was related to goals that fit into the course content in a broader sense, but are not part of the course curriculum, such as "resilience and mindfulness in the work environment" or "learning certain programming languages, app development" or "programming my first game in unity". In the second cluster students chose goals related to the organization of their studies (time management, motivation), such as "staying on track with lectures" or future work possibilities "make myself visible on professional social media". The third cluster of chosen goals were personal goals in terms of hobbies and socializing, such as "learn to hand letter", "learning certain (new) languages" or "getting in contact with new people".

The BA students mainly chose goals with a direct relationship to their studies and hence their goals were usually technical, while the MA students chose goals that benefitted from networking and were indirectly related to their studies. This may have had an impact on the different reception of WOL in the two courses and should be taken into account in our subsequent analysis of the degree to which our goals for the use of WOL have been fulfilled. To anticipate the results briefly: our goals of group loyalty and support in pandemic times have been fully met in both courses. The other goals achievements are stronger in the MA course and in the BA course only with gradations, as we will see in the following.

## Achievement of our objectives

In both courses students welcomed the opportunity of the experiential learning journey through WOL, especially because of the group experience during Covid19 times, where WOL offered the opportunity to connect with peers outside of the contexts of lecture or seminars. From the data two themes of student experience have been derived 1) the group bonding experience during the online course in general and 2) the impact the method had on their self-development. In the latter, we found significant differences in the results between the two courses.

### Group Bonding Experience

Right from the beginning, students of both courses highly appreciated their circles, the work in the groups and the regular meetings. In the words of one of the tutors "the students celebrated their groups".  Belonging to a group gave students the opportunity to relate and connect:

> *WOL was the highlight of my week in terms of university. Being stuck in this pandemic, changing the whole student life, I missed the personal contact and exchange with my fellow students and the feeling of being part of a team. WOL allowed us to get to know each other better, which I am sure would otherwise not have been the case.*

The circles and the weekly meetings gave students of both courses the opportunity to get in contact with other students, start regular exchanges and feel integrated. The students started their studies directly online and had no contact other than in the virtual environment, lacking the informal opportunities to connect on campus. Thus WOL, with the group cohesion experience at core, gave them the opportunity and room to get to know each other at a more in-depth level. It helped them to overcome their isolated home university situation and form a virtual group with private (online) activities alongside their studies. In many cases social ties were established, contributing to students' social capital, and some circles continue to meet for self-organized events after the 12 weeks:

> *It was nice to get to know some people of the class closer, because of the corona situation this was not so easy. I am happy to call my group members friends now.*

Generally, the group process was appreciated by students and the WOL method contributed to the establishment of cohesive groups and peer support structures.

### Impact of the method on student's self-development

In terms of the remaining objectives, drawing on self-development aspects of WOL, we learned that students had different experiences and made different progress. Achieving our objectives was more challenging and we've found mixed results.

<u>Self-organized and targeted learning:</u>

Self-organization within the circles and the structure of the hourly meetings worked well in both courses. The supporting tutors in the Bachelor's course indicated that the group organized itself much better and was more motivated, and that WOL meeting roles, such as moderator or timekeeper, were perceived with considerably more enthusiasm when the tutors withdrew themselves. In the role of coach and idea generator in the circle, they were able to contribute from their own experiences or give advice on how to reflect on their own experiences. As soon as they took on this role, the group became much more active and was able to organize the circle in a self-organized manner.

Active learning and ability to reflect:

Working Out Loud aims to develop an active attitude towards one's own learning. By reflecting on the achieved goals and one's own work, learning success and one's own commitment should improve. The goal to foster active learning and reflection through the experiential learning process could be observed in the Master's course. Students actively reflected on their learning and observed changes in their behaviour:

> I've learned new habits, looked at certain problems and situations from a different perspective and established valuable ties with people I did not know before.

Moreover, they reflected on learning through knowledge sharing and reported learning new things about themselves:

> I love the supporting environment where we shared our experience and our knowledge. During the WOL journey I got to know myself better and learned more about others and the society.

In the Bachelor's course, it was much more difficult for the students to reflect on their own work or to use the circle guides constructively. It is noticeable that the students often remarked that the guides had to be adapted to the needs of students (instead of employees which is who they thought the guides were made for), but could not give any concrete examples or even name adaptations:

> Most of the exercises did not work or were not suitable for students, so I cannot give a specific mention [of how exercises need to be adopted].

Through the observations and the workshops with the tutors in the BA course, we found out that the students mainly had a problem with exercises that had the task of exposing their own goals etc., especially on social media. As mentioned above, they could only recognize the goal of the exercise to a limited extent and thus adapt it to their own situation. Rather, the focus was on dealing with social media, as we will see in the next section.

Learn to expose your own goals, ideas or projects:

We were only able to convey the idea that a network can help in various ways to achieve one's own goals in a rudimentary way in the BA course. In particular, the idea of exposing their inner thoughts and building relationships inside a network not limited to the student's university class was seen sceptically by the students. We found out that they strongly differentiate between a private social network (which a small amount of the BA students used) and professional or university related networks. The BA students did not like the idea of exposing themselves in either of those networks. They did not want to use their "private" network for helping them to reach their WOL goal (which they declared as "university related"). In general, they are not active on social media. Very few of them started to build new virtual networks besides their new group network. The Masters students also raised those concerns; however, many of them have worked in a business environment and have professional social media accounts, this may also be due to the business studies context.

Growth mindset and network building:

Consciousness towards continuous learning and progress (Dweck, 2015) by connecting with others (Kamat, 2012) also developed amongst Master students. The interrelationship of achieving new goals and personal growth by building valuable connections was one of students' key learnings:

> *The experience showed me that one should never underestimate the value of relationships, that setting a goal one is really passionate about takes time, and that one should always try something new to improve and grow beyond oneself.*

Personal growth in terms of reflecting how new ways of thinking changed student's self-image and the attitude that the collective power of networks contributes to individual success was reported:

> *I observed a shift in the way of thinking. I used to think that by working hard, one can be successful and earn recognition. However, I understood the importance of being connected and 'better together'.*

Referring back to skill sets required for the digital age (Cubric, 2013; Kamat, 2012; Krehbiel *et al.*, 2017), WOL has contributed to enhance those skills in the MA course, particularly in terms of taking active responsibility for one's own learning by sharing in building a network with peers and beyond to achieve one's goals. The analysis of the reflection reports indicates that WOL has had an impact beyond the respective in-class event and assisted in the internalization of a more open and collaborative mindset.

## Context matters: Applicability of WOL with current circle guides

From our data we learned that the applicability of WOL and its current guide and exercises differed in the two courses. The students of the Bachelor's course stuck to the circle guides very closely and performed the exercises even when they actually thought that it didn't help them much or even found them uncomfortable. Only through the encouragement and support of the tutors were they able to make adaptations independently in the group or to design exercises according to their own wishes and needs. The Bachelors students found some exercises rather childish or were not able to apply them to their personal setting. These were in particular exercises in which relationships should be cultivated or reflected upon. Such exercises were judged negatively rather than constructively considering what the goal of the exercise was and how this could have been achieved in a way that suits them.

The documented experience by Masters students was more positive and only minor changes to the WOL circle guides (e.g. students suggested that group building activities, such as sharing a list of personal characteristics, be introduced earlier) were mentioned by the students. However, students also viewed the circle guides as 'guides' and did not try to work on all the tasks in the same manner but decided on the peer coaching aspect and check-in / check-out phase of the meetings.

We believe the applicability of the WOL method with the existing guides was in the Master's course higher due to three aspects. Firstly, the context of the course (business studies with a focus on transformation management and agile work) made it easy for students to understand the underlying reasons for the journey (also pointed out in pitstop guest lectures and course content) and also future job opportunities as WOL is used in large organizations (e.g. Bosch, Siemens), thus knowing agile methods may become a recruitment advantage. Secondly, these students were likely to be at a more advanced level of personal development due to students' age and their past study and work experience. Thirdly, the higher level of (professional) social media activity vs. BA students, with accounts on LinkedIn, Xing or Twitter, which made it easier for them to make their work visible and to establish relationships online during the Covid19 limitations.

To conclude, the need and level of adaptation of the available WOL guides strongly depends on the course context. In both cases adaptations are suggested as WOL is focusing on a work environment setting but is particularly recommended for BA-level students in a non-social sciences context. Hence, when doing further research and new projects on WOL we have to take the context into account; we will discuss this in the next section.

## FURTHER DEVELOPMENT AND PROJECTS

When we discussed our first data with colleagues from other universities in Europe, we found out that a lot of others are planning to either do WOL with their students in the next semesters or use something that is inspired by or near to WOL to activate their students and bring them to a learning and goal-oriented attitude. Our first results on the BA course showed that the students were struggling with some of the ideas, concepts and exercises, especially those who need social media accounts. We widely discussed the idea with our colleagues, and some of them suggested that the students might be in a situation where everything is new and they may have other challenges in their first BA semester. Others reminded us that learning new methods and a new attitude to learning should start in the first semester and especially the connection in groups might help students in their first semester. The latter was mentioned by our students very often - they were happy about being in the groups and being supported by a method which helped them to stay on track and to connect in their first (online) semester. This motivated us to build an own learning sequence, inspired by agile learning methods and WOL for our students in their first semester. This learning sequence is embedded in our Ilias learning platform and enables the circles to be carried out in a structured and documented manner. It contains a number of interactive elements, exercises and instructional videos. Above all, however, it is one thing - a novelty in the design of complete learning content: it was designed and implemented by the students themselves. This participatory approach is new to our degree program and is only just emerging. The students will use the learning sequence every semester but also develop it further. We will continue to monitor and investigate this development. Conversely - as can be seen from the above-mentioned discussions - there will be many more uses of WOL in the university context, so that the database will expand and we will understand more and more precisely which goals we can achieve with the use of WOL for students and in which contexts we can use WOL. Our university will contribute to this development, too. So WOL in a university context will be part of our "Studium Generale" – a widely open and voluntary course on WOL.

## SUMMARY

In this article we have shown that students can benefit from the use of WOL especially when forming their teams and building group cohesion. WOL can also help the students to organize themselves in teams, to pursue their own goals and activate the learning process. However, first semester BA groups especially need further support and more structured offerings as the above-mentioned learning sequence when networking with outside networks and exposing their own goals or projects. In other words, WOL will play a role in university learning, especially when group cohesion and accomplishing goals is important, but its application might be adapted. We will be working on that in the future and will provide more insight especially in motivating BA students to network. Besides continuing testing WOL in various higher education settings and adapted, participatory formats, directions of future research could be the comparison of WOL to other learning journey formats, such as the learning journeys provided by Theory U ("the U process") where group practices are also the core of the learning journey (Scharmer, 2009).

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# PUBLIC-PRIVATE PARTNERSHIPS TO SOLVE THE SKILLS GAP?

**Pieter MOERMAN**
We are Katapult, NL

Email: p.moerman@ptvt.nl

## ABSTRACT

This article focuses on the issue of the 'skills gap' and the possibility for governments to stimulate collaborative partnerships between educational institutions and businesses ('public-private partnerships') to reduce this gap. The Dutch government initialized several such initiatives to realize regional public-private partnerships in vocational and higher education (Ministry of Education, 2017; Ministry of Economic Affairs, 2018), but also within the private sector alone, to stimulate cooperation to bridge the skills gap. The government implemented an incentive to build partnerships with much freedom to set goals and activities and to focus on experimentation and learning, with the requirement of co-funding and shared goals among partners. Partnerships might be able to achieve results that colleges or companies could never hope to attain alone ('the whole is greater than the sum of the parts'). Based on an analysis of 48 partnerships up until 2017, this appears to be true: partnerships can engage in a large variety of activities that each partner alone would not have accomplished; and can reflect and adapt based on their progress. However, the power relationship within the partnerships appears to have a strong tendency to lean towards the education institution, leading to goal displacement regarding their primary goal and the termination of activities that are perceived as difficult by the education institution, in the Netherlands most notably lifelong learning. This causes concern about the likelihood of involvement of (smaller) companies in the long term. The position of the less powerful partners (often small- and medium sized companies) needs to be strengthened for them to continue to participate, focusing on activities that benefit these partners, such as lifelong learning.

## INTRODUCTION

This article focuses on the issue of the 'skills gap' and the possibility for governments to stimulate collaborative partnerships between educational institutions and businesses ('public-private partnerships') to reduce this gap. In 2018, McKinsey calculated that at least 58% of the jobs worldwide will undergo significant changes over the next 10 years (Manyika, 2017; McKinsey & Company, 2018). These changes are accelerated by the COVID-19 pandemic. In the Netherlands alone, a recent report by PWC calculated that in the coming years 1.6 million jobs will disappear because of digitalisation accelerated by the pandemic (PWC, 2020). Both reports emphasise that most people in the jobs that will change or disappear will need significant (re-)training.

All of this has significant consequences for the role of vocational and higher education, and associations of both vocational and higher education have declared that education

institutions can play a major role in the (re-)training of future and existing employees [6]. However, education institutions are often perceived as too slow to adapt to these rapid developments on their own (Netherlands Scientific Council for Government Policy, 2013). Partnerships with companies and non-governmental organizations are seen as a way of increasing the responsiveness of education institutions and are expected to be better able to improve the skills and knowledge of the workforce. The Dutch government developed several initiatives to realize regional public-private partnerships in vocational and higher education (Ministry of Education, 2017; Ministry of Economic Affairs, 2018), but also within the private sector alone, to stimulate cooperation to bridge the skills gap. Also, across Europe, several initiatives were launched (European Training Foundation, 2019), including a 400 million Erasmus+ program by the European Commission, to realize so-called centres of vocational excellence (see Grievink in this publication) [7].

This article reflects on the question of to what extent regional partnerships might be able to help reduce the skills gap. First, public-private partnerships are defined, and their characteristics are explored. Second, results from a large-scale quantitative analysis are presented, analysing the activities of 48 partnerships between vocational and higher education up until 2017. Third, the article concludes with the observation that regional partnerships can fulfil an important role in the (re-)training of the workforce. However, last but not least, it is argued that reflective problem solving and an equal role for companies and education institutions within a partnership are crucial to achieve success.

## PUBLIC-PRIVATE PARTNERSHIPS IN VOCATIONAL AND HIGHER EDUCATION IN THE NETHERLANDS

The essence of a public-private partnership in vocational and higher education is that it involves results that neither colleges nor companies could ever hope to achieve alone. In practical terms, this could mean: i) a jointly funded location where both regular education and ongoing employee training can take place; ii) employees who are trained to pass on new knowledge and skills during a training program on a regular or incidental basis, therefore ensuring their continuing development and that of the company: education / training and work blending together on a continuous basis; iv) the launching of research projects in which students, teachers and employees work together on innovations, so that students receive a better education and the company can apply these innovations in practice; to name but a few activities with the potential to add value for all involved.

This type of partnership can be characterised as a collaborative relationship, emphasising the idea that each of the partners is dependent on the other to achieve goals they could not achieve alone (Ansell and Gash, 2008). The underlying assumptions are that the whole is greater than the sum of the parts, that new and innovative ideas will be generated, and that the partnership will exclude purely commercial transactions (McQuaid, 2000). This type of partnership strongly differs from the better-known purely contractual relationships between public and private actors, for example in realising infrastructure projects. In these latter partnerships, the idea is that private actors are better suited to achieving policy objectives, as private actors are assumed to be more effective and efficient ('t Hart *et al.*, 2001: 193). In this article, a public-private partnership is thus defined as a "*more or less sustainable cooperation between public and private actors in which joint products and/or services are developed and in which risks, costs and profits are shared*" (Klijn, 2010, p. 211).

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[6] https://www.vereniginghogescholen.nl/themas/leven-lang-ontwikkelen, https://vsnu.nl/files/documenten/Nieuwsberichten/Visiestuk_18_november_kennis_voor_onze_toekomst.pdf, and https://www.mboraad.nl/themas/leven-lang-ontwikkelen, last visited 02 May 2021.

[7] https://ec.europa.eu/social/main.jsp?catId=1501, last visited 02 May 2021.

The characteristics of such partnerships strongly differ from the up to recently mainly conventional operations of education institutions in the Netherlands (see *Table 1*). First, rather than the education partner being solely responsible for conducting education and research programs, these partnerships imply that public and private partnerships share responsibility for achieving their goals, both at academic and economic levels. Second, rather than clearly defined roles and tasks for an education institution, such as conducting education programs, the activities within such partnerships can reach beyond the standard activities of the partners, are based on the needs of the partners, and (in theory) can incorporate new technology and solid knowledge and be more responsive to market developments and innovations.

|  | **Education institution** | **Public-private partnerships** |
|---|---|---|
| **Goal setting, goal attainment and relationship with government** | Sole responsibility for achieving goals set by government; direct relationship. | Network cooperation to reach self-defined goals; goals may be influenced by government. |
| **Type of activities (supply/demand) and relationship with the government** | Essentially supply-driven: Provide education for pre-defined attainment levels; rules and procedures set by national government to ensure quality. | Essentially demand-driven: Provide activities that network partners want, which may or may not fall under government rules and procedures. |

*Table 1: Comparison between key characteristics of education institutions and public-private partnerships (adapted from: Moerman, 2020)*

Several examples exist within the Netherlands of this type of collaborative work, and the network of public-private partnerships in vocational and higher education has grown to more than 350 partnerships in over a period of ten years. An impact study in 2019 on 192 of these partnerships revealed that over 10,000 companies participated, reaching a total of 82,000 higher education students (Katapult, 2019). These partnerships often focus on technology-intensive sectors (or cross-sectoral themes like healthcare and technology), as employers in the Netherlands have difficulty finding personnel with the right background and skills, particularly in these sectors (Schwab, 2019, p. 419; Bakens *et al.*, 2019). Policy evaluations of these partnerships conclude that they can narrow the gap between education and the labour market (Dialogic, 2020). A practical example is the Chemelot Innovation and Learning Labs, a cooperation of the *Hogeschool* Zuyd (University of Applied Science), Vista College (a VET-school), the University of Maastricht, DSM and Sabic, and over twenty small and medium sized enterprises located on the Chemelot Campus in Heerlen. After ten years, working together with students, higher education researchers, and professionals from the partner companies, they had developed a portfolio of modern research facilities, practical training programs and master classes for professionals, and practice-based research projects [8].

## PARTNERSHIPS IN PRACTICE

A large-scale quantitative analysis of 48 partnerships has been conducted as part of a PhD project (Moerman, 2020), and provides insight into the actual operations of these partnerships in vocational and higher education in the Netherlands. Additionally, a thorough policy evaluation by Dialogic and Ecorys (2020) focused on one specific grant of the Ministry of Education (the Regional Investment Fund in vocational education) of the Dutch Government is used to enrich this analysis below.

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[8] https://www.chillabs.nl/en/chill-enhances-the-innovative-strength-companies-the-chemical-sector/, last visited 02 May 2021

The partnerships analysed are part of three experiments launched by the Dutch government which took place between 2011-2017, all of them focused on establishing regional public-private partnerships (PPP) involving education colleges (MBO and HBO [9]), companies and often regional governments. The distinguishing features of all three experiments were:

a) The government provided a substantial financial incentive for achieving long-term cooperation between the schools and the companies;
b) The schools and companies were given a great deal of freedom to choose the goals of their partnership and the activities that they would engage in. There were few rules, procedures or targets, other than that the partners needed to cooperate and contribute financially;
c) There was a great deal of emphasis on learning, experimentation and development of activities, with new approaches being tried out in each experiment, such as learning programs, peer reviews and 'critical friends'.

The approach applied in all experiments thus gave much freedom for partnerships to realize their own goals and activities, including many features in the governance of the projects [10]. The large-scale analysis includes a bottom-up approach, using a tailor-made methodology to evaluate whether the chosen activities of partnerships were successful in the partnership's own terms. Based on the progress reported by the partnerships themselves, these results show the development of the 48 partnerships mentioned over a period of four to five years, providing an in-depth insight into the development of each partnership and whether the partners evaluated that development as positive (for a full explanation of the methodology, see Moerman, 2020, p. 144).

On average, each partnership engaged in 17 activities, distributed under different goals, with much variation in both goals and activities between individual partnerships. In total, 52 activities were identified to achieve the five overall goals. The goals and activities are presented in *Table 2*.

| Goals | Example of methods to achieve goals (activities) |
|---|---|
| Contribute to innovative capacity | Facilitating start-ups<br>Research and development for companies<br>Sharing knowledge through meetings |
| Improve initial education | Update curricula<br>Teacher training<br>Student teamwork |
| Lifelong learning | Customized courses for a business<br>Masterclasses for businesses<br>Re-training for unemployed persons |
| Match between labour market & education | Develop a continuous learning route in secondary education towards vocational education<br>Increase number of students in sectors with a shortage |
| Production and research facilities | Sharing of facilities by school and businesses<br>Bring state of the art facilities within the school<br>Use facilities of businesses |

*Table 2: Goals and examples of activities of partnerships (adapted from: Moerman, 2020)*

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[9] MBO: vocational education institutions, HBO: higher professional education, or universities of applied science.
[10] These governance regimes also featured elements of bureaucracy and new public management, which is beyond the scope of this specific article. See Moerman (2020) for more details.

In practice, a large variety of activities were introduced in the 48 analysed partnerships (see *Table 3*).

| Goals | % of N | N |
|---|---|---|
| 1. Improving initial education | 49% | 422 |
| 2. Contributing to innovative strength | 22% | 189 |
| 3. Matching education to the labour market | 16% | 136 |
| 4. Lifelong learning | 10% | 86 |
| 5. Production and research facilities | 4% | 36 |
| *Total* | 100.00% | 869[11] |

*Table 3: Number of times a new activity was introduced (N) in 48 partnerships, categorized per overall goal (adapted from Moerman, 2020)*

It can be observed that the activities varied strongly in the partnerships, with a focus on activities which improved initial education (the core task of the education institution). Emphasis was placed on activities that contributed to the innovative strength of the partners, such as engaging in innovation projects of practice-based research. Also, 16% of all activities focused specifically on matching the education curricula to the labour market needs through, for example, programs to stimulate students in sectors with shortage of workers (such as health care and engineering). 10% of activities was focused on lifelong learning, for example masterclasses, training courses for businesses or retraining of unemployed persons. Finally, most partnerships also established some sort of shared production or research facility, mostly to concentrate the partnership activities in a location shared by both companies and the school.

According to the partnerships' own evaluation, the activities performed as shown in *Table 4*:

| Result | % of S | S |
|---|---|---|
| 1. In line with expectations right from the start [12] | 24% | 203 |
| 2. In line with expectations after at least one year below expectation or no reporting [13] | 16% | 136 |
| 3. No mention after the initial plan and never reported on thereafter [14] | 19% | 161 |
| 4. Activity was reported below expectations consistently and/or disappeared from reporting after second year [15] | 21% | 179 |
| 5. Activity was started after the initial plan and/or original activity was changed radically [16] | 20% | 172 |
| *Total* | 100% | 851 |

*Table 4: Number of sequences (S) of how activities were reported on during the development of the partnership (adapted from Moerman, 2020)*

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[11] A total of 869 activities were introduced, leading to an average of 18 activities per partnership

[12] Sequence: (1) activity started; (2) in line with expectations or well above expectations; (3) in line with expectations or well above expectations; etc.

[13] Sequence: (1) activity started; (2) below expectations or no mention of activity; (X) in line with expectations or well above expectations. X means that this result can occur in either the third, fourth or fifth year..

[14] Sequence: (1) activity started; (2) no mention of activity; (3) no mention of activity; etc.

[15] Sequence: (1) activity started; (2) below expectations; (3) below expectations or no mention of activity; (4) below expectations or no mention of activity; etc.

[16] Sequence: (1) no mention of activity; (X) activity started or activity changed radically. X means that the year in which the activity started or changed radically can be either the second, third, fourth or fifth year of development.

Nearly 60% of all the activities showed strong performance fluctuations over the years: either the activities were started after the start of the PPP (underperforming activities were replaced by better-performing activities), or activities were tried and succeeded, or found to be failing and terminated. In total, 40% of the activities were successful during the project period. Activities perceived as complex or difficult by the partnership, often activities that ranged outside of the comfort zone of the education institution, were terminated more often than others (in this period activities that focused on lifelong learning were predominantly terminated).

Finally, a report by Dialogic and Ecorys (2020) evaluating partnerships in vocational education concludes that partnerships can strengthen the relationship between education and the labour market. As this report evaluates only one specific grant of the Ministry of Education focused specifically on vocational education, these specific results are not valid for higher education. In partnerships in vocational education, 70% of the partners are convinced that a better match between education and the labour market was achieved, and the quality of students has improved. Also, 60% believes the match between the education program and companies' performance has improved. Additionally, students in a partnership have on average a 0.5 to 3 percentage-point higher chance to get a job.

## Partnerships in practice: observations and challenges

The analysis above gives reason to be positive on the potential of partnerships to bridge the skills mismatch problem. On average, the responsiveness of the education institution increases, and dedicated activities are undertaken to improve the skills and knowledge of the workforce. However, nearly half of the activities focus primarily on the core task of the education institution, and lifelong learning activities only constitute 10% of all activities. Qualitatively, much can be noticed from the analysis above, and many of the benefits and challenges the partnerships face are not unique. The main challenges correspond closely to (some) of the reasons cited in the literature regarding why PPPs may fail or struggle (see McQuaid, 2000, for an overview). Two main observations and challenges are summarized below: problem-solving capacity within partnerships and the power relationship between partners.

*1) Problem-solving capacity within partnerships*
A key aspect of successful partnerships, and of networks in general, is the ability of partnerships to choose their own goals and activities, and to be able to evaluate, adapt and terminate activities. The success of partnerships depends on the capacity for learning and diversifying, acknowledging the fact that partnerships operate in a context of uncertainty as to the precise route to take (Heemskerk and Zeitlin, 2014; Sabel and Zeitlin, 2012). In our case, the partnerships were given much freedom to manoeuvre, and actively engaged in problem-solving whilst formulating their own goals and activities. They reflected (to some extent) on whether these were proving effective and at times changed their approach. Interestingly, except for practice-based research, no differences were found between partnerships in vocational or higher education. Additionally, most of the partnerships continued their activities after the grant was finished, which can be considered a positive sign. The evaluation of Dialogic and Ecorys (2020) also finds that in vocational education there is no one-size-fits-all approach possible.

On the negative side, the partnerships terminated those activities that were perceived as difficult more frequently, especially when they were out of the comfort zone of the education institutions. These were often activities focusing on lifelong learning, something which the participating companies asked for explicitly but which was new to the education institution. As most partnerships are still only a couple of years underway this was to be expected, and a focus on 'low hanging fruit' was perhaps inevitable. However, evaluation of the actual

impact of the partnership to focus on the desired activities of the less dominant partners, especially small- and medium-sized companies, is something that requires much attention.

*2)  Power relations between partners*
A much-discussed problem within collaborative partnerships is the (often unequal) power relations between partners (McQuaid, 2000). The strong incentive from the government including joint goal setting and the requirement of co-funding from all partners had a positive contribution to building equal partnerships, especially at the start. Given the fact that education and business live in different worlds, this requirement helped to bring these two very different worlds together in a 'compulsory' way. However, even with these requirements, the strongest partner in the partnership – the educational institution – ended up wielding disproportionate influence over the activities that were chosen throughout the years, leading to a goal displacement towards the primary goals of the strongest partner (Moerman, 2020). Overly dominant education institutions within a partnership can in the long run cause businesses to take a step back. For example, Dialogic and Ecorys (202) already found that continuous involvement of companies during the project period is one of the key challenges of existing partnerships.


## CONCLUSION

This article focused on collaborative partnerships between educational institutions and businesses ('public-private partnerships') and their capacity to solve the 'skills problem', as many jobs will change or disappear in the next few years due to rapid evolution and the implementation of digitalization; the side effects of the COVID-19 pandemic are likely to hasten these changes. Partnerships might be able to achieve results that colleges or companies could never hope to attain alone ('the whole is greater than the sum of the parts'). Based on an analysis of 48 partnerships up until 2017, this appears to be true: partnerships can engage in a large variety of activities that each partner alone would not have accomplished, and to reflect and adapt based on their progress. In an evaluation by Dialogic and Ecorys (2020), this appears to have a positive effect on the match between education and the labour market. However, the power relationship within the partnerships appears to have a strong tendency to lean towards the education institution, leading to goal displacement regarding their primary goal and the termination of activities that are perceived as difficult mainly by the education institution, such as lifelong learning. This causes concern about the likelihood of involvement of (smaller) companies in the long term.

To conclude, a financial incentive to build partnerships with much freedom to set goals and activities and to focus on experimentation and learning, and the requirement of co-funding and shared goals among partners positively contributes towards successful partnerships that can contribute to solving the skills mismatch problem. However, the position of the less powerful partners (often small- and medium sized companies) needs to be strengthened in order to encourage them to continue to participate, and partnerships need to focus on activities that benefit these partners – even though they might be difficult to achieve, in practice.

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# TRAIN-THE-TRAINER CONCEPT IN HIGHER EDUCATION: LEARNING THROUGH COACHING

**Mahsa FISCHER**
**Nicole ONDRUSCH**
**Kerstin STEIMLE**
Heilbronn University of Applied Science, DE

Email: mahsa.fischer@hs-heilbronn.de

## ABSTRACT

The COVID-19 pandemic has brought universities to a new situation. Some students were unable to complete their internship or semester abroad as planned, and this led to an increase in the number of students participating in classes at their home institution. Also, the courses that used to take place in-person needed to be transformed to online courses with the consequent lack of the traditional interactions among students and lecturers, so new approaches, which are often supervision intensive, are needed to keep the students engaged. Therefore, we developed a Train-the-Trainer concept by designing a model based on coaching, peer-tutoring, and learning exchanges. Here we are expanding the traditional tutor concept to assure the following overarching goals:

1. Providing the course participants with intensive small-scaled supervision during the online teaching sessions
2. Giving more responsibility to more senior students, the 'Junior Coaches', to deepen their knowledge.

We have applied this model in two case studies and have evaluated the concept based on a Mixed Methods Research Design. The results showed that all three user groups of Lecturers, Junior Coach and course participants appreciated this approach.

## INTRODUCTION – ELEMENTS AND GOALS OF PEER COACHING AND TRAIN-THE-TRAINER

The switch of traditional on-campus courses to online courses during the COVID-19 pandemic brought new challenges to universities. For example, the students' attention spans often decrease in online courses (Fergus, 2020; Rasto, Muhidin, Inayati, & Marsofiyati, 2021) and the traditional interaction between participants and the lecturer is missing (Ali, 2020; Crawford *et al.*, 2020).

In the information age, students also need to acquire the 21st century skills to succeed in their careers. Creativity, critical thinking, collaboration and communication are considered as essential "learning skills" in this context (Care & Griffin, 2015; OECD, 2019; Virtanen & Tynjälä, 2019). Mastering these skills is not possible by just learning the theory, but by practicing the underlying methods and best practices in real-life projects in a group of students. Additionally, an essential element for learning is to practice regularly and receive continuous feedback (Pereira, Flores, Simão, & Barros, 2016). Therefore, the partial results obtained from regular practice should ideally contribute substantively to a larger real-life

project. One way to improve these skills in students is through our train-the-trainer approach, in which more advanced students from the same courses act as coaches or peer-tutors to support junior students through their learning journey.

We designed a concept for our ideas relying on the following **core elements** that show one possible future of education:

- **Learning by teaching and coaching**: students learn through support and instructions from more experienced students - the Junior Coaches.
- **Train-the-trainer**: Junior Coaches receive basic methodical training in the respective profession and regular coaching from the lecturers.
- **Reflection:** students and coaches critically reflect on their learning and teaching success in regular sessions.
- **Projects with purpose:** students work on team projects to gain practical knowledge and experience by applying the learnt theory on projects with social impact.

These elements offer a solid foundation to understand and apply the methods in real-life projects. This leads to a win-win situation for both coaches and those being coached. The safe educational space at universities gives the coaches the opportunity to try out different coaching approaches and to learn new skills for their future career. The junior students can learn from the coaches and get continuous feedback on their projects.

We have tested these elements in two lecture courses based on Design Thinking methods. In this article, we first explain our concept and the different learning levels. Secondly, we describe how this concept was implemented as case studies in two online courses during the COVID-19 pandemic. Finally, we evaluate this approach and share our experience.

## DESIGN OF CONCEPT – FOR MORE ENGAGEMENT, DEEPER LEARNING

The concept, as a special form of peer tutoring (Abbot, Graf, & Chatfield, 2018; Topping, 1996), consists of two levels explained below (see *Figure 1*):
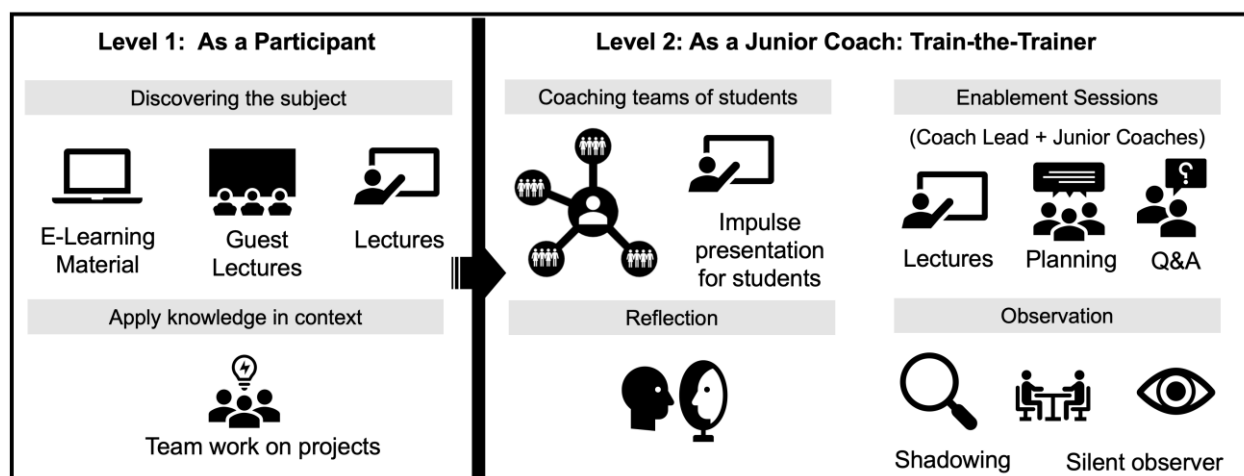


*Figure 1: Trainers' Learning & Coaching Journey*

## Level 1 – Learning by participation: Discover and Apply

This level is about learning the theoretical knowledge and gathering experience about the topic as a participant first. The students should explain the essential terminology and understand and apply the methods of the subject. Consequently, our concept divides this level into two parts: Discovering and Applying.

*Discovering* the subject**:** The students learn the theoretical knowledge related to the subject. This can be offered as theoretical lectures in early semesters or as awareness workshops in companies. E-Learning material such as interactive learning modules can be provided here, too.

*Applying* knowledge in context: At this level project-based lectures can be conducted where the students work on projects together as a team and apply the theoretical knowledge gained during the *Discovering* phase.

After this level, students who are interested in being a coach and helping others in this area can become involved in the second level.

## Level 2 – Learning by coaching: Empowerment and Reflection

In Level 2 Junior Coaches gain specific knowledge about the role of coaching on the one hand, and deepen their own knowledge about the subject related processes and methodologies on the other hand, by helping other students from the earlier semesters of the course to work on their projects and understand the topic. By imparting knowledge and supporting students in the learning process, Junior Coaches learn to understand and reproduce the subject matter more deeply. The learning objective of the junior coaches in this phase is to be able to convey one's own knowledge in the respective subject area of the lecture and to be able to guide students in their learning journey, as well as to reflect the learning success of their coaching group.

Activities at this level can be categorized as coaching, enablement, reflection and observation:

*Coaching* Teams: Junior Coaches take responsibility for supporting specific teams of students with their projects. They present inputs with tips and tricks that help students to apply the techniques properly. This includes in-class activities together with the participants.

*Enablement* Sessions: The lecturer in the role of "Coach Lead" provides support sessions for the Junior Coaches. These might include giving deeper insights into the topic covered by the lecturer during classes, discussing interesting examples or problems in the field or just answering questions arising from the lecture topic.

*Reflection*/Retrospectives: The Coach Lead meets with the Junior Coaches every week to discuss the planning and structure of the next coaching session and get some feedback from the Coach Leads. Here experiences from the last coaching sessions can be exchanged and reflected upon.

*Observation:* Using two observation techniques, inspired by the approach at HPI Institute (Plattner, Meinel, & Leifer, 2012; Plattner, Meinel, & Weinberg, 2009) and SAP, Junior Coaches can gain deeper knowledge in their new coaching role.

- Shadow a coach: The Junior Coaches can observe the lecturer while coaching and teaching the students, therefore learning different coaching and didactic methods.
- Silent observer: The Coach Lead observes the Junior Coach while s/he is coaching a team in a specific phase of the process and gives feedback about the things that could be improved or new / alternative ideas for presenting the material.

The authors have conceptualized and practiced this concept for two case studies that are explained below.

## THE CONCEPT IN ACTION – OUR CASE STUDIES

We tried out this concept for two different lecture courses as case studies. In both cases students learnt Design Thinking as a methodology. While the first lecture course used Design Thinking as methodology as part of a module in "Software Engineering & Mobile Systems" the course in the second case study is dedicated specifically to Design Thinking. These settings are described in the table below.

| | Case study 1: Software Engineering and Mobile Systems | Case study 2: Design Thinking |
|---|---|---|
| Major | Business Informatics | Software Engineering |
| Students in Lecture | 90 | 65 |
| Number of Junior Coaches | 4, each dedicated to 4 teams for the entire semester | 6, some dedicated to 4 teams, others to 2 teams |
| Team Size and Team Building | The students were divided into 16 teams of 5-7 people. They could decide themselves with whom they would like to work in a team. The only restriction was that the students from higher semesters needed to be in the same group. | Teams were built on Belbin (Belbin, 2011). Fixed team roles were specified for the whole first semester of the major. For this lecture we divided each team into 2 teams of 3-5 team members. |
| Content of the Lecture | The goal of the course is to teach students the theory behind the concrete mobile app development with the conceptional help of Design Thinking. | The goal of this course is to learn about Design Thinking with all its methods in each phase. |
| Project work in this lecture | The topic of the projects, the so-called Design Challenges, could be selected by the teams themselves. The challenges needed to be selected according to the 17 Sustainable Goals (SDGs)[17] of the United Nations. | Students could choose from "social challenges" such as "How could we help our region to be more attractive?" or "How could we attract the interest into technology of more female students?" They were asked to build real solutions and not just concepts or paper prototypes. |

*Figure 2: Case Studies and their setup*

For this purpose, the general Train-the-Trainer concept had to be slightly adapted to the needs of the two courses. As part of the first learning level, all Junior Coaches were able to gain experience with the design thinking process as participants in the previous semester. For the second learning level in case study one, weekly training sessions were conducted with the Junior Coaches to reflect on the completed activities and to plan the activities for the next week. In the second case study, three retrospective workshops were organised to gather coaches' experiences and to reflect on coaching practice and work with student teams. Silent observation was conducted by the Coach Lead during various coaching sessions and during the Junior Coaches' momentum talks in both courses. The "Shadow a Coach" technique was only conducted in the first case study, when the Junior Coaches were able to accompany and observe the Coach Lead to learn from her during the planning and execution of a 3-day Design Thinking workshop. In the following section we will share the evaluation results.

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[17] https://sdgs.un.org/goals

## EVALUATION OF THE CASE STUDIES – METHODS & RESULTS

We applied a Mixed Method Research Design (Creswell & Creswell, 2017; Mertens, 2014) to evaluate the Train-the-Trainer model used in both case studies. One quantitative study was conducted to gather feedback from the course participants. A qualitative study was used to gather feedback from the Junior Coaches. This study included a survey that was filled out by 58 participants at the end of the semester. The qualitative study consisted of a semi-structured interview (Lune & Berg, 2017) with the Junior Coaches. Below we describe the results of the evaluation, and close with some personal remarks and suggestions.

The concept scales for large events, such as these two case studies with 90 and 65 students. Having the reflection and observation sessions with the coaches every week needed additional hours to be added to the original course hours; however, this extra time and effort helped to improve the course delivery and, in particular, made the courses more focused and student-centric. Dealing with the training concept helped lecturers to define the content of the course more precisely. The insights and perspectives of the Junior Coaches led to a better understanding of the learning processes involved.

In Learning Level 1 of our concept, we defined the part "Applying". In our courses, this meant that students had to work on a certain project and take responsibility for the result. The result of the survey showed that 49 out of 55 students recommend keeping the concept of defining a large project for the whole semester for a team of students to work on it. The students mentioned in the survey that teamwork was one of the possible ways to motivate students for learning in the COVID-19 pandemic situation. They mentioned that it was more fun to work in a group, and they could gather more ideas and help each other with the topics. This gave them satisfaction and they learnt Design Thinking successfully:

> *To know that we could really solve an existing small problem was motivating.*
>
> (Student comments in the survey)

With the support of their coaches, students learnt to organize their teams. According to the experience of the Junior Coaches, the students were more comfortable raising questions to them rather than raising the question to the lecturer.

> *It's good to talk to people who have been through the same thing and know what's important.*
>
> *We can always bother them with "unimportant" questions. The fact that we are both students is very helpful. They tell us tricks and tips for the lectures.*
>
> (Student comments in the survey)

The results of the survey showed that the students were very satisfied with the support of the Junior Coaches in Case Study 1. Of 55 people who answered the question as to whether they would recommend keeping the concept of involving Junior Coaches, 47 participants answered 'yes'.

Most of the students who did not select "very satisfied" in the scale mentioned as the reason that it was a pity that the support of the Junior Coaches was only provided for the Design Thinking process but not for the programming part. Students and coaches furthermore improved their ability to reflect upon their own work. The coaches had dedicated reflection sessions with the Coach Lead, while the students learnt this from their group work and the reflection with the Junior Coaches. The problem of supporting large number of students with the projects is solved to a great extent by delegating the tasks among Junior Coaches who can work in parallel during the lecture time. It was easier for lecturers to keep the progress of the teams under control and review. The regular documentation completed by the coaches was very helpful in allowing lecturers to get a quick overview every week about the progress of the teams.

The Junior Coaches helped to improve the course structure and material with their experience of being a student. They were a good bridge between lecturers and students in communicating the wishes of the lecturers and any problems experienced by students. The Junior Coaches could gain experience by coaching real teams working on different projects. One often learns at a deeper level oneself by teaching others, and this was a key concept in this approach. As an example, the Junior Coaches helped the students to define better interview questions. To achieve this, they needed to review the formulated questions of the students and suggest better alternatives. They needed to argue why the original questions could be improved, and give tips on how to do it better. In doing this, they improved their own argumentation skills and ability to communicate complex concepts.

By getting individual feedback from the lecturer following the silent observation sessions, and by seeing examples of coaching and workshop planning in action during the shadowing activities, they learnt a lot about responsibility and the learning processes of students. Furthermore, the coaches gained facilitation management experience by preparing the coaching sessions and the agenda:

> *Managing the time was difficult in the very first coaching sessions with the students, but after a couple of sessions, I learnt how to manage the time plan more efficiently, so that I could answer the questions of all the teams.*

<div align="right">(Reported by Junior Coach)</div>

The coaches believed that the experience they had gained would help them in their career in the future in conducting customer workshops in companies. The Junior Coaches received a certificate as a Junior Design Thinking Coach at the end of the semester.
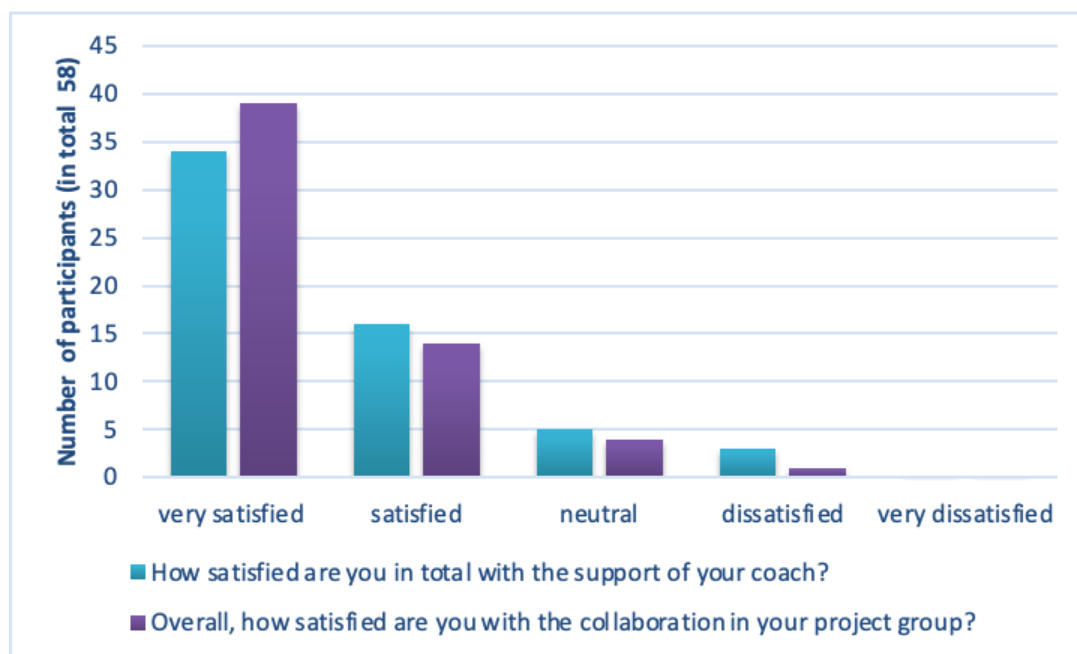


*Figure 3: Survey results on satisfaction rating.*

## CONCLUSION

This extended tutor concept helps lecturers as well as Junior Coaches and students to teach, support and learn, respectively, methodical subjects such as Design Thinking.  All three target groups welcomed the experiment and found it a positive experience. The choice of Mixed Method Research Design was appropriate in achieving the expected results. The findings of this study helped to improve the course concept in following semesters. For example, the Junior Coaches are now supporting students not only with the Design Thinking, but also with the App Development process.

To scale up this concept for more participants, we suggest increasing the number of coaches, but not the team sizes, or the number of people that each coach supports. According to the experience of Junior Coaches, supporting more than 23 course participants each, as happened in Case Study 1, could be challenging according to the limited available time for coaching. As suggested by Oakley, Felder, Brent & Elhajj (2004), the team size for effective teams should be 3-4 members. A higher number of coaches would mean that the weekly meetings of 1.5 to 2 hours would not be enough to review the activities of all the teams with the lecturer. One suggestion would be to add one further level to the hierarchy, so that one experienced Junior Coach would take the role of Junior Coach Lead and manage the regular meetings with all the Junior Coaches, and limit the weekly reflection sessions with the lecturer to 1.5 hours to clarify any unsolved problems. We will try out this concept, since we expect to have about 150 participants next semester.

One challenging aspect is the diverse level of knowledge of the Junior Coaches. This might lead to differences in the ability to support the teams. Providing well-structured coaching materials and templates could help to balance these differences. Therefore, we are currently expanding the materials available for use based on the feedback of our Junior Coaches.

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# PUBLIC-PRIVATE PARTNERSHIPS IN EDUCATION: ERASMUS CENTRES OF VOCATIONAL EXCELLENCE

## Boudewijn GRIEVINK
We are Katapult, NL

E-Mail: b.grievink@ptvt.nl

**Key words**: *public-private partnerships, Erasmus, Centres of Vocational Excellence*

## ABSTRACT

In this discussion paper, we describe the recent development of Erasmus Centres of Vocational Excellence, discuss how these public-private partnerships are crucial in co-creating activities like Lifelong Learning in a holistic way and share some of the lessons learned from the pilot Centres of Vocational Excellence.

## PUBLIC-PRIVATE PARTNERSHIPS: THE WAY FORWARD?

It only takes a quick look at recent policy documents from the European Commission to realize that we are facing major societal and economic challenges. These challenges, ranging from transforming into a sustainable and climate-neutral economy (EC Green deal, 2019), to recovering from the COVID-19 crisis (EC RFF, 2021) and enhancing and future-proofing Europe's competitiveness (EC European Digital Strategy, 2020) all have a great sense of urgency. What they also have in common is the need for skilled, well trained professionals in order to meet these challenges head on. This is interesting, especially since we are also facing the demographic development of an ageing workforce.

In 2020 the European Commission outlined the human capital ambitions of the EU for the years to come in the 'European Skills Agenda for Sustainable Competitiveness, Social Fairness and Resilience', defining twelve actions to meet those ambitions. These actions encompass all educational sectors and make quite clear that major joined-up efforts from all stakeholders, public and private, are needed. The challenges we face are simply too big and too complex to be addressed by a single actor or sector (EC Pact for Skills, 2020). Therefore, public-private partnerships play a pivotal role as an organizing mechanism between companies, educators and governmental organizations.

These combined efforts are supported by the European Commission, for instance through the new Erasmus programme with the Centres of Vocational Excellence (CoVEs). In 2019 and 2020 twelve pilot CoVEs were established, exploring the concept of public-private partnerships as a driver for change in their respective skills ecosystems. In this paper, I will 1. briefly describe the concept of the CoVEs; 2. have a look at the activities that companies, schools and regional authorities typically develop in these Centres, 3. and go into the question of how to organize these kinds of partnerships and ensure sustainability, based on the lessons learned in the pilots.

Although the CoVEs itself are new in the Erasmus programme, there is ample experience with the concept of public-private partnerships in (VET) education across Europe, as described in the Mapping of Centres of Vocational Excellence publication by the European

Commission (2019). The Basque region notably has a strong tradition of close and flexible collaboration between schools and companies. In the Netherlands over 350 public-private partnerships were developed over the last decade, sharing their best practices, lessons learned and knowledge through the open source *We are Katapult* network.

For this article, I also drew from this previous experience, based on policy evaluations (van der Touw, 2013) and peer reviews of individual public-private partnerships using the model for public private partnerships in VET (We are Katapult, 2020). Furthermore, the project leaders of the pilot CoVEs meet regularly in a Community of Practice to discuss the development of their projects. Although these meetings are not an official evaluation, some of the insights below are based on those discussions.

## CENTRES OF VOCATIONAL EXCELLENCE: WHAT ARE THEY AND WHAT TO DO WITH THEM?

Before going into the detail of the CoVEs, it is important to clarify the scope of these Centres. The Erasmus CoVEs focus on work-based learning experiences and on EQF level 3-5. However, that does not mean that these Centres are limited to these levels. In the majority of the pilot projects, which are plotted on an interactive map on [www.wearekatapult.eu](www.wearekatapult.eu), universities and universities of applied science are important actors in the regional skills ecosystem, working closely with other education providers like VET schools and employers in their respective sector and region. A similar image arises from the Katapult Impact study (2019), assessing the 350+ public-private partnerships in the Netherlands.

The CoVEs, as other forms of public-private partnerships, are organizational instruments that aim to transform the way in which we develop and organize education and training. All too often, education providers have only limited connections with employers and the companies where their graduates will pursue their careers. The Centres aim to bring employers, educators and regional governments in a specific skills ecosystem closer together on a structural basis. These partners collaborate in developing a *common* needs analysis and strategy for their region and sector. Therefore, each region participating in a CoVE needs to have at least one educational institution and one business representative participating in the project. In the Netherlands, a typical public-private partnership involves about 30 companies, 50 teachers and 400-600 students (Katapult, 2019).

In addition to the regional collaboration in a CoVE, the Erasmus projects connect Centres in multiple countries with each other, based on a shared sector like Urban Greening (see the EPLUG project), or a similar approach to transversal issues like inclusion or digitalization (see DIHUB project). The idea behind these platforms of CoVEs is to exchange knowledge across Europe, sharing facilities and forming clusters, thus creating state of the art points of reference for the chosen sector.

## SIX BUILDING BLOCKS OF ACTIVITIES FOR PUBLIC-PRIVATE PARTNERSHIPS

When looking at the activities developed in the CoVEs, there is not really a limit on what can be done (Erasmus Programme Guide, 2021). Nevertheless, when taking a step back, six categories of activities, or building blocks, can be distinguished (Katapult, 2019):

- **Improving curriculum and recruitment**: this building block focuses on improving the quality of the curriculum by redesigning courses together with businesses to keep the curriculum up to date. Apart from the content, the focus can also be on the method of teaching, for example, by offering classes in real life situations or on site.

The underlying goal of these activities is to increase the intake in a sector and to make sure there are sufficient, well trained employees available.

- **Lifelong Learning:** these activities focus on the reskilling and upskilling of workers, and can range from modular courses offering micro credentials to full degree programmes.

- **Network building:** public-private activities are simply not possible without having a network in your skills ecosystem. Developing a sustainable network in which all partners trust each other, have insight into each other's needs and have shared ambitions is a precondition for the other building blocks.

- **Shared infrastructure:** in this building block, the partners are sharing physical infrastructure, for instance installations that education partners can use for training students during the day, and provide lifelong learning courses to companies in the evening.

- **Applied Research:** in many sectors knowledge develops so quickly it is hard to keep up. Through public-private partnerships, the latest knowledge can be applied in practice and transferred to companies. The TKgune initiative in the Basque region is an inspiring example of how a public-private partnership can facilitate applied research.

- **Professional innovation**: activities in this building block are focused on innovating as part of the daily core practice of companies. Especially for SMEs without the means to do this by themselves, it can be interesting to innovate through the public-private partnership. (NL Digital, 2020).

Depending on the needs in the region, a public-private partnership can focus on combinations of these building blocks. The public-private partnership allows for a holistic approach to collaboration between educators and other stakeholders in the skills ecosystem.

## Lessons learned: how to successfully set up public-private partnerships

After looking at the possible activities in the CoVEs, the next question that arises is: how to organize all this? Based on the discussions by the project leaders of the pilot CoVEs in their Community of Practice and evaluations of public-private partnerships in the Netherlands (van der Touw, 2013; Groot Beumer *et al.,* 2020; Katapult, 2019 & 2020), the following lessons can be drawn:

1. **Co-ownership is key**. Naturally, educational institutions, companies and governmental organizations are different, but in the public-private partnership they need to be equal. Each organization needs to be committed and involved in order to build a sustainable network that will last after the subsidy period. In the Dutch context, co-funding from all partners, either in cash or in kind, proved to be key to ensure the commitment of all partners. Without the co-ownership, the cocreation of the activities becomes rather difficult (Groot Beumer *et al.*, 2020).

2. **Work on a needs basis** and focus on making an impact for the stakeholders of the public-private partnerships. As Hans de Jong, CEO of Phillips and closely involved in public private partnerships, put it: *"you shouldn't impose a top down solution because that goes against the will of the people. It is precisely this bottom-up power that is the formula for success"* (Katapult, 2019, p. 12). The regional needs analysis will provide a good starting point for the partnership, and by focusing on the impact on students and/or companies from partnership activities, tangible successes are likely - successes which need to be communicated, promoted and celebrated, and which will in turn attract other partners.

3. **Start (small)!** The biggest recommendation that the project leader of the PoVE Water, an individual very experienced in public-private partnerships, had for the other

Centres of Vocational Excellence Water in his project was to start having cups of coffee with their stakeholders to establish warm relations and listen to their needs. Based on this input they can start taking short sprints - with continuous feedback loops - to develop activities. The structure and governance will fall into place as a consequence, fitting the needs of the specific partnership.

4. **Focus on problem solving behaviour**. In his analysis of 10 years of public-private partnerships in Dutch vocational education, P.F. Moerman (2020) identifies problem solving behaviour in public-private partnerships as a critical aspect for success, in contrast to sticking rigidly to the predefined plan and focusing obsessively on ticking all the boxes.

5. **Take your time** and develop a **good business case**. Rome was not built in a day, and neither is a CoVE. Getting to know all stakeholders well, preparing a proper needs analysis and developing relevant activities together takes time! There is a good chance some activities will fail, or will simply seem less relevant as overall plans develop and mature, and it is important to have time to reflect on these and to put the lessons learned to good use. Based on these experiences, partners will need to develop a sound business case for the partnership, structuring the costs and detailing how these costs will be met. The successful and financially sustainable public-private partnerships in the Netherlands typically needed at least four years to get to that point (Groot Beumer *et al.,* 2020).

## CONCLUSION

The development of the CoVEs has just started, but given the results of other public-private partnerships throughout Europe, it seems to be a promising development. The holistic approach, crossing organizational boundaries both within the education sector and between education and businesses, can lead to a warm and long-term partnership between all stakeholders in the skills ecosystem. Creating this type of warm and structurally solid partnership can provide the groundwork for many different activities, including Lifelong Learning.

The development of CoVEs is by no means an easy task, nor are CoVEs a silver bullet solution to all the challenges we are facing. However, the alternative of continuing to work in our own silos in business, schools and governmental organizations is simply not an option. We will have to do something if we want to succeed in overcoming the challenges we are facing, and CoVEs have the potential to address many of these issues. In the end the proof of the pudding is in the eating, but the Centres of Vocational Excellence are definitely worthwhile for all involved in (higher) education to at least keep an eye on, or even better, to get involved in.

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- Digital Innovation Hub for Cloud Based services: www.dihubcloud.eu
- European Platform for Urban Greening: www.platformurbangreening.eu
- Platform of Vocational Excellence Water: www.povewater.eu

**Websites**

- https://tkgune.eus/en/
- www.wearekatapult.eu

# THE MARGINALISATION OF SHORT-CYCLE COURSES IN ENGLISH HIGHER EDUCATION: ADDRESSING THE UNINTENDED OUTCOMES OF POLICY

**Kevin ORR**
University of Huddersfield, UK

E-Mail: K.Orr@hud.ac.uk

## ABSTRACT

Over the past thirty years Higher Education (HE) in England has transitioned from being a relatively small elite system to being a mass system, with some of the features of a universal system (Trow, 2007). Yet, the number of mature part-time undergraduate entrants to English Higher Education (commencing their courses aged 21 or over) has declined significantly in the past ten years (Hubble & Bolton, 2021). This article discusses one aspect of this decline, the marginalisation of short-cycle courses leading to technical qualifications below bachelor's degree level. These courses have traditionally attracted part-time mature students and they lead to long-established qualifications that are well-recognised by employers. The government's emphasis on full-time bachelor's degree courses for students starting under the age of 21 has, however, had the unintended outcome of making these short-cycle courses much less attractive for universities and for students. This article explains that student funding is the most significant barrier to participation, but universities also need to make adjustments if more part-time mature students are to access these short-cycle courses.

## INTRODUCTION

This article discusses one aspect of the serious decline in part-time mature students in English higher education (HE) over the past decade, the marginalisation of short-cycle courses that lead to well-established HE qualifications such as Higher National Certificates (HNCs), Higher National Diplomas (HNDs) and foundation degrees. HE policy in the United Kingdom (UK) is devolved to each of the four nations, England, Northern Ireland, Scotland and Wales. England has by far the largest HE system, which has diverged from the other UK nations in how it is organised (Callender & Mason, 2017). The great majority of HE students in England are full-time and studying on three-year bachelor's degrees that they started before they were 21. Often overlooked by researchers and by policymakers are those students taking short-cycle technical courses equivalent to ISCED level 5, below bachelor's degree. These students are most likely to be mature (starting courses after the age of 21) and part-time[18]. This article seeks to explain the decline in the numbers of students on short-

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[18] The intensity of what constitutes part-time study differs between courses and individuals. This article adopts the definition used by the Higher Education Statistical Agency (HESA): those recorded officially as part-time; studying full-time on courses lasting less than 24 weeks; on block release; or studying during the evenings only.

cycle courses in relation to the unintended impact of government policy, and it suggests finally how that decline might be reversed.

## The English HE system: competition and high fees

The English HE system is hierarchical and its governance is marked by "a strong underlying competitive, market-oriented vision" (Andreadakis & Maassen, 2019, p. 90). Governments have consistently promoted the expansion of full-time three-year undergraduate courses in universities, and attending university has become the desired outcome for school-leavers. As a result, English HE has transitioned from being an elite system designed for a small proportion of young people to a mass system with some of the features of a universal system (Trow, 2007). In 1980 15 per cent of people under 30 had accessed HE in England; by 2018 that proportion was over 51.9 per cent overall (DfE, 2020).

The current tuition fee for home students on a full-time undergraduate degree is up to a maximum of £9250 per year (more for certain courses and for international students), pro-rata for part-time students. That maximum fee is charged by the great majority of HEIs. Graduates repay these fees with government-funded loans, which also cover some living costs. Consequently, the level of graduate debt among borrowers who finished their courses in 2019 was £40,000 (Bolton, 2020, p. 3).

## The decline of students on short-cycle HE courses

While the number of students on three-year degree programmes has until recently expanded, the number on short-cycle courses in HEIs has been shrinking significantly. Between 2015/16 and 2019/20 the number of students on short-cycle courses fell from 155,830 to 106,425 (HESA, 2021). There has been an overall decline in the number of part-time undergraduate students in England, but that decline has been even steeper on short-cycle courses. Between 2010 and 2015 there was a drop in part-time students of 37 per cent on Bachelor's courses but a drop of 57 per cent on short-cycle courses (Callender & Thompson, 2018, p. 21). Other nations of the UK have not experienced such a drop in students on these same short-cycle courses (Field, 2018, p. 21), suggesting that drop is associated with English policy.

Figures for English HE in 2019-20 indicate that short-cycle students are disproportionately from lower socio-economic backgrounds. Applying the Indices of Multiple Deprivation (IMD) measure, 51 per cent of students on short-cycle courses live in areas within the two most deprived IMD quintiles, compared with 38 per cent on undergraduate degrees. As noted above, they are also disproportionately likely to be part-time: 53 per cent of short-cycle students were part-time while 10 per cent of bachelor's degree students were part-time (figures from HESA, 2021). The decline in part-time students is of concern because their demographic is very different to that of full-time students. They tend to be older; in 2019-20 59 per cent of new part-time students were over 30. Part-timers are also more likely to be female and to have caring responsibilities, especially for children. The great majority are in work and they are less geographically mobile than full-time students (Hubble & Bolton, 2021, p. 7). Falling numbers of part-time students reflects diminishing opportunities for many mature people to access HE.

## Why have the number of students on short-cycle HE courses in England declined so much?

By far the most important factor in determining the steep fall in the number of part-time students, including those on short-cycle courses, is how HE courses in England are financed. HE had been free throughout the UK prior to 1998, when tuition fees were introduced, to be repaid by loans as noted above. After education policy had been devolved to the four nations

of the UK, in England these fees rose to a maximum of £3000 in 2006 and then in 2012 tripled to £9,000 for full-time students, pro rata for part time students.

This tripling of fees "marked a cliff edge" for part-time students (Open University, 2017, p. 8), who were unwilling to take on the loans associated with the fees. Mason's (2020) analysis of the 2017 Adult Participation in Learning Survey which surveyed 5169 persons aged 17-plus in Great Britain (see Mason, 2019) reinforces this conclusion: "very few current adult learners appear willing to go into debt in order to pay for course fees" (p. 38). Many of those lost adult learners are likely to have taken short-cycle vocational courses such as Higher National Certificates, Higher National Diplomas and Foundation Degrees where enrolments have fallen most sharply (Parry *et al.*, 2017; Augar, 2019; Callender & Thompson, 2018).

The overall decline in the number of part-time HE students in England and the associated marginalisation of short-cycle courses represent a major failure of the market in education upon which English education policy has been constructed (see Open University, 2017). England has what Cantwell, Marginson, Smolentseva and colleagues (2018) describe as a high participation system of HE with around 50 per cent of young people accessing HE. Within this competitive system the stratification of HEIs leads to a vertical stretch of the sector as strong universities accumulate advantage and improve their position so attracting those students who seek to maintain or advance their own social position (Marginson, 2016, p. 413; 425). In this hierarchy, in which some courses carry more value than others, "relative advantage is crucial" (Marginson, 2016, p. 415) and students with the wherewithal will seek out the most prestigious course they can access. There is no competitive advantage for a university in offering short-cycle courses in positioning itself within England's HE hierarchy and arguably there is disadvantage in being associated with low-level HE such as short-cycle HE.

## Consequences and solutions

The unintended decline of short-cycle courses is, therefore, the consequence of broader structural changes in HE in England and not just the policies of a few universities or a single funding measure. The reasons for the decline are built into how HE in England is organised on a market-oriented basis which requires universities to compete and which valorises fulltime bachelor's degrees courses and marginalises other undergraduate provision. The government commissioned Review of Post-18 Education and Funding, referred to as the Augar Review (2019), explicitly attributes the narrowing of higher-level technical education through short-cycle courses to market failure. Unfortunately, that recognition of failure has not produced new ideas on how students might be attracted back to these courses. The Augar Review still advocates a "lifelong learning loan allowance for tuition loans… available for adults aged 18 or over, without a publicly funded degree" (2019, p. 40). The poor take-up of similar existing loans suggests strongly that this will not encourage mature students onto these short-cycle courses, part-time or otherwise (see Mason, 2020) because of the deep-seated aversion to debt discussed above.

If the government wishes to see this area of technical education expand, they need to drastically reduce the costs of these courses or, as Mason (2020) recommended, make them free to students. Similarly, the government could actively incentivise universities to develop short-cycle courses through regulation and funding.

For their part, universities need to learn once again how to attract mature part-time students to short-cycle courses as they have done in the past. That will entail more targeted guidance for mature applicants about HE courses, and it will mean greater collaboration with employers to encourage and enable release for part-time courses. Universities can also improve access to these courses by organising them to allow people in work to attend part-time, whether in person or online. Similarly, mature students have different priorities and different obligations to younger students and communication needs to reflect those

differences. All of that would constitute a shift from English universities' current and overwhelming focus on recruiting students aged below 21 onto bachelor's degrees. It would also constitute a challenge to the market orientation of English HE. Short-cycle courses in technical subjects can open routes to knowledge, understanding and employment that might transform lives. For too many potential students in England those routes remain closed because of a competitive HE system that excludes them.

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# REINVENTING TRADITIONS.
# THREE QUESTIONS TO MIRKO NOORDEGRAAF

## Eva CENDON
FernUniversität in Hagen, DE

## Mirko NOORDEGRAAF
Utrecht University, NL

E-Mail: M.Noordegraaf@uu.nl

*Mirko Noordegraaf is full professor of Public Management at the Utrecht School of Governance (USG), Utrecht University. From 2012 until 2018, he was chair of the executive Board of USG, since Sept. 2018 he is vice dean for Societal Impact of the Faculty of Law, Economics and Governance. He also chairs the Dutch Association of Public Administration.*

**Eva Cendon**: Please give us a sense of what societal impact of universities entails. What do you mean by it? What are its core activities?

**Mirko Noordegraaf**: Societal impact is a key concept in the Netherlands; in Dutch universities; in my university, Utrecht University and especially in my faculty within the university, the Faculty of Law, Economics and Governance. We use it to make sure that we have a more contemporary understanding of how the university functions in relation to society. To be more precise, we use it as a key concept to link both academic education and research to society, to societal practices, partners, themes, issues, problems, etc. We do not say 'we have impacts which occur alongside our education and research'; no, we have education and research as the core of our university, but we explicitly want to relate this education and research to society.

We do this because it enriches academic work, and it makes education and research much more interesting. But we also do this to have more societal meaning as well as more societal impact. This, in turn, might contribute to the legitimacy of our university. It is very important to have strong connections between academic institutions and society. That has always been the case, but this is especially relevant nowadays. It is a legitimacy-seeking endeavour and we have related key concepts to characterise this transition. In Utrecht, we emphasize 'open science'. It is about opening up and not only bringing our knowledge to society, but also using knowledge from society for our academic practices. It is reciprocal.

In terms of activities, we – in our faculty – identify four core activities for creating impact. First of all, we link education, including both Bachelors and Masters level education to society, by what we call 'societal learning.' This means labour market perspectives for Bachelors and Masters students, alumni relations and bringing alumni back to classrooms to share their experiences. Continuing education is part of societal learning - we call it 'education for professionals'. This has linked us to society, to labour markets, to external organisations, etc. In addition, we have a core activity called 'societal advice' which refers to academic consultancy projects; we advise policymakers, politicians, organisations, executives and the

like. Next, we have a core activity called 'societal interactions,' which includes public engagement, outreach and public lectures. We also bring artworks to the city, to open up dialogues.  Finally, we have the core activity of 'societal co-production'. We make deals with partners from the outside and co-produce. Academic questions for research do not only come from us, but they are also developed in co-production with societal partners, reciprocally.

**Eva Cendon:** If we look more closely at university continuing education, what forms of impact do you see?

**Mirko Noordegraaf:**  We have already quite a history in terms of continuing education. Part of this is executive education, so formal executive master programmes, two-year programmes with formal university diplomas. In addition, we have more open programmes which are essentially non-formal education. These programmes do not directly lead to a university diploma, but to a certificate. And we have all kinds of in-company trajectories and more specific programmes for organisations. Sometimes, they are also linked to the consultancy projects we do, or the developmental programmes we have. It's not education in the literal sense, it's not classical teaching, but it is part of 'educating' or developing professionals.

In terms of impacts, first of all we work with professionals, professional workers. Via education, teaching modules and programmes, we have an influence on them. We strengthen them in terms of intellectual capabilities, in terms of knowledge and insight, in terms of skills, and we of course contribute to their careers and career progression. All of this has an impact on professionals and their position in the labour market as well as on their careers. That is first order impact.

Secondly, via working with these professionals and groups of professionals, we also have an impact on the functioning of organisations, policy processes, politics. As a Faculty of Law, Economics and Governance, and here, at the School of Governance, we work with managers from public and semi-public organisations such as hospitals and schools, and we work with with policymakers, governments, ministries and municipalities, and with politicians. We have an impact on the functioning of organisations and on policymaking through continuing education practices.

In addition to that, we have an impact via these professionals on ourselves because we can use their experiences, knowledge, insights and also their projects to enrich our own education and research. We keep in touch with developments 'out there'. We know the trends and we can use them. And we make use of them for example as guest lecturers and for internships in Bachelor's and Master's education to prepare our younger students for the labour market. So, this getting in touch and staying in touch and getting in tune is an important asset of these programmes.

Finally, we have a 'knowledge circulation' effect. We value the circulation of knowledge and experiences, and we link and connect fields of practices. That really adds something to all these various fields. It is not only a separate activity with instrumental value, it is a more circular phenomenon aimed at combining knowledge, linking theses to these practices, enriching practices via academic consultancy and turning consultancy projects into academic publications.

**Eva Cendon:** This leads me to the future: We live in disruptive times, and things are constantly changing. What are conditions for strengthening our actions and generating impact? What are the critical questions that universities need to pose themselves when they want to follow such a route?

**Mirko Noordegraaf:** I think it's important for universities to invest in continuing education, especially as times are changing. We in our faculty have a history in it, but it is not a widespread or very common phenomenon. Up until now, in most parts of the university, we think of education as Bachelor's degree, three years; Master's degree, one or two years … and that's the end of it. After that, students work and they will never be students again. But I believe continuing education or lifelong learning will become much more natural. As a university, we must adapt to this changing world, and have a good feel for changing labour markets which will be characterised by flexible contracts and more unpredictable career steps, or indeed individuals changing professional fields entirely. It should be our role not only to set up programs and guarantee quality, but also to focus on appropriate knowledge and skills, and to make effective credentialing systems, including micro-credentials. In this way we can support and facilitate people within these changing labour markets.

In addition, we have to understand new trends and developments in society. We now see for example a huge emphasis on the digitalisation of society, and related developments such as artificial intelligence, also in terms of knowledge and research. We can link this to continuing education, to offer state of the art programs.

This brings us to conditions for organizing responsiveness and flexibility and perhaps, to some extent, improvisation. That is really difficult for universities, because universities are very big institutions, with bureaucratic features. In addition, we are a public institution, we must be very careful, so there is reluctance and there is a sensitivity to risks and accountability pressures. Changing this more traditional way of working calls for continuous education and also broader impact cultures and infrastructures.

Culturally, we try to have a more entrepreneurial mindset. We organize modules for our own colleagues, on how to organise continuing education. What does it mean in terms of getting to know markets? What does it require from us in terms of marketing? How about project control, etc.? This is internal training for continuing education.

In terms of infrastructure, we have new governance procedures, also quality concerns, quality procedures, new colleagues. In our faculty (and the humanities faculty), we have a director for continuing education, or education for professionals, as we call it. He is stimulating, activating and directing the development, together with (support) staff.

Finally, all of this needs to be connected to the primary processes, to the regular colleague, the regular researcher and teacher. In terms of ideas, this is quite simple, but it is a tough matter of connecting educational professionals' activities to performance assessment, task assignment, and career steps. We try to have more enriched task assignments, not only Bachelors and Masters courses, but also education for professionals, linked to research and/or consultancy and/or public engagement and related impact activities. When you make it transparent in task assignments, impact is not an 'add-on', it does not come 'on top of' existing tasks.

In the Netherlands, this is legitimated by a new emphasis on 'rewards and recognition', backed by models. We now move towards the TRIPLE model, that is Team spirit, Research, Impact, Professional performance, Leadership and Education. You can then start to combine, when it comes to individual people. For example, education might be education for professionals, but in combination with consultancy projects or public engagement. That then becomes part of the formal performance discussion, and also of career prospects. We try to

have more differentiated career lines, not only research related, but also education related and education for professionals and impact related.

This is happening on a small scale but we are trying to scale up. Nevertheless, a day-to-day focus on individual colleagues is crucial, so that our colleagues will have more certainty on how to engage in these new types of activities which are new in traditional and well-established university contexts. Let us reinvent these traditions.


**Eva Cendon:** Thank you very much.

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