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Enhancing impact through co-creation, collaboration and partnership

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THE POWER OF CONNECTION

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It has been 15 years since the launch of the European Universities' Charter on Lifelong Learning (EUA, 2008) which marked the first public commitment to lifelong learning at European universities. And already one year before, in 2007, eucen launched its recommendations on University Lifelong Learning (eucen, 2007). After all this time, however, offering continuing education is still not self-evident for universities – let alone "lifelong learning universities." (ibid., 4) For a long time, universities primarily focussed on research, followed by education, and this often continues to be the case. Nevertheless, there are domains in which university continuing education (UCE) has a longer tradition. This is evident in professions that require academic training, in particular, such as the medical sector, education, and law. In these domains, UCE was and is mainly aimed at further training and for re- and up-skilling within the profession the participants were initially trained in. As recent international research by the UNESCO Institute for Lifelong Learning and Shanghai Open University (2023) shows, universities have begun realising more and more that they have a responsibility not just to respond to the rapid and often disruptive developments in the labour market, but also to act upon them. And that is urgent, looking at the current landscape (World Economic Forum, 2023), as alumni and other professionals are confronted with new demands and with questions that require new knowledge, skills, and attitudes. For them and for others, learning does not stop after the initial bachelor's and master's degree. Universities must respond to their needs and discover what needs may arise due to new competencies that are required on the labour market. Ideally, universities respond in such a way that alumni and other professionals are involved in thinking with educators about the content and form of UCE, thereby developing new forms of co-creation of knowledge. But at the same time, the workload within universities is already high and there are sometimes still calls to leave this type of education entirely to others, for instance, to specialised and/or commercial providers. Overall, the discourse on the position of UCE is not without controversy.

The aim of UCE in general is to exert impact in at least three domains: To have impact on the *motivation and performance of professionals;* to have impact on *dealing with or even solving societal challenges* such as the global climate change; and to have an impact on s*ocial cohesion, social engagement and active citizenship*.

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For achieving impact in these domains, universities need to work together, to collaborate and to generate sustainable partnerships with public and private societal partners, with training institutions and with other knowledge-intense organisations. Strengthening the connection between education and research within universities while also including partners is also of great importance. Thus, research universities as well as universities of applied sciences need to improve and develop a professional repertoire for establishing and maintaining these forms of collaboration.

The focus of the eucen conference 2023 in Utrecht was on collaboration and connection: How to jointly identify and articulate the need for expertise as well as the need for intelligible learning and professional development? How can we as universities address those needs with UCE? What does that mean for our current portfolio? How can we cooperatively develop new knowledge and gain wider insights? What connections should we develop or strengthen? And how can we organise cooperation and create participation and learning networks?

During the conference, the changing positioning of UCE in society and within educational institutions was discussed. Future horizons of UCE were explored: Futures that might be less about courses and degrees, and about teaching and learning hierarchies, but more about participatory, mutual learning, of becoming a knowledge partner in a learning network with several actors.

This volume of the European Journal for University Lifelong Learning (EJULL) includes a selection of papers that address the topic of the eucen 2023 conference from different angles. They focus on three themes under the umbrella of collaboration and connection: (a) cooperation and cocreation and how they jointly create impactful UCE, (b) modern workplace learning in relation to higher education developments and impactful UCE, and (c) embedding UCE within the core of the university.

The opening short paper by *Marian Thunnissen*, A stakeholder approach to Lifelong Learning, sets the context of lifelong learning in the host country of the eucen conference, the Netherlands. The author highlights recent developments in Europe and the Netherlands around the role and relevance of the multiplicity of stakeholders involved in lifelong learning for the LLL ecosystem.

The following four articles focus on *cooperation and co-creation* and how they jointly create impactful UCE.

The discussion paper by *Mauro Palumbo and Roberta Piazza* from the Italian Network of UCE (RUIAP) discusses the role of the network in supporting the university to strengthen the impact of LLL and UE activities. It hence shows the relevance on national UCE networks and the important role they play in supporting UCE on a policy level.

The innovative practice article by *Esther de Groot, Mathé Delissen, Debbie Vermond, Carmen Erkelens, Frans H. Rutten, and Dorien LM Zwart* focus on continuous professional education with and for healthcare professionals. The authors illustrate with two projects how they reach impact by building a network with stakeholders, therefore ensuring the participation of “busy professions”.

In the following innovative practice piece *Loes Meijer, Esther de Groot, Grainne P Kearney, François Schellevis, and Roger Damoiseaux* dive deeper into the effects of disruptive developments and the constant change in organisations. Also drawing their example from the healthcare domain, the authors reflect upon an approach that facilitates collaborative and continuous learning with change: the Change-Laboratory.

A research paper that examines the connections between theory and practice through a didactical lens concludes this first thematic lens. *Anita Mörth* presents a research-based model of didactical actions in UCE that helps to illustrate the actors and their manifold actions that are aimed at interconnecting theory and practice on multiple levels within and outside higher education institutions.

The next two articles address *modern workplace learning in relation to higher education developments* and impactful UCE.

The research paper by *Kelly Streekstra, Koen Wessels, Peter Pelzer, Jesse Hoffman, and Josie Chambers* on the potential of didactic mixing in lifelong learning critically engages in didactic mixing in two courses in sustainable education. By making use of action research and reflective practice, the authors show through the lens of teachers how didactic mixing can work in future-oriented didactic settings.

In the following research paper *Chryssa Themeli, Ruth Maloszek, and Carme Royo* present case studies from a European project that explored the possibilities of combining peer learning with Augmented Reality. The case studies seek to prove the efficacy of this approach that can be applied in all fields of education, from primary school to higher education and continuing education.

Embedding UCE within the core of the university is the focus of the last three articles of this volume.

Taking the route via the new and potential game changer within UCE, micro degrees, *Julia Reinman* shows in her short paper, how a university can come closer to becoming a lifelong learning university. They present and critically reflect on the case of designing flexible learning pathways through micro degree programmes at Tallin University.

In the following discussion paper, a more systemic perspective is taken. *Markus Weil* discusses the relations of higher education and UCE with the example of the Swiss educational system. He aims at systematising the concept of co-operation with a focus on structural and institutional perspectives including contextual preconditions.

The final innovative practice paper by *Clelia Paraluppi, Patricia Mancebo May, Ceyrine Pellikaan, and Naomi Wahls* presents the steps taken towards an enhanced quality assurance system at the TU Delft Extension School for Continuing Education through an organisational cultural change. The authors share the lessons learned on establishing an organisational quality culture, defining QA standards and processes, and showcase how the professionalisation of instructors plays a pivotal role in offering high-quality continuing education.

Our closing "*Three questions to…*" in this volume are posed by *Wieger Bakker,* and the answers are provided by *Joost Korte, Director-General of DG Employment, Social affairs and Inclusion (DG EMPL) in the European Commission*. Joost Korte emphasises the relevance of university continuing education for both the economic and social development of the European Union. In his view, it is upskilling and reskilling in shorter training courses, in particular, that universities can provide as key to lifelong employability.

This extra-large volume of the European Journal of Lifelong Learning is proof of high-quality developments regarding cooperation and connection in university continuing education, as well as of lively discussions on UCE between different stakeholders throughout Europe. The articles frame UCE in different geographic and political contexts, including perspectives from Belgium, Estonia, Germany, Greece, Italy, Norway, Switzerland and the Netherlands. We are proud of having ten articles in this volume: three research papers, five short papers and

innovative practice articles as well as two discussion papers. For this feat of strength, we would like to thank all authors for their submitted works and their energy for further developing and further improving their articles. Furthermore, a big thanks to all reviewers of this volume for their invaluable constructive and always appreciative feedback. Please stay with us in the New Year. And finally, to all readers: for their patience in waiting for this journal edition until the end of this year. We wish you insightful reading and a peaceful turn of the year.

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A STAKEHOLDER APPROACH TO LIFELONG LEARNING

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***Keywords**: Lifelong learning, higher education, stakeholders, ecosystem, the Netherlands*

ABSTRACT

Lifelong Learning (LLL) has been high on the policy agenda for several decades, but the actual implementation has been lagging. Various publications point at the advantages of a LLL ecosystem. This article highlights one core aspect of the LLL ecosystem – the actors. It aims to shed light on the multiplicity of stakeholders involved in LLL and their role in the ecosystem. The paper starts with a description of the historical developments regarding the objectives of LLL and the learning activities involved in LLL. Subsequently, it discusses the shift in the main actors involved in LLL and their role therein. The paper discusses developments in Europe in general and in the Netherlands in particular, based on an analysis of relevant literature and documents. The article concludes with some final remarks and recommendations for higher education institutes.

INTRODUCTION

Significant societal transformations and developments such as digitalisation, technological progress, and climate change have a major impact on the way we live and work. The world around us is constantly changing. In this rapidly changing society, continuous learning and development is vital to ensure that people are able to participate in both work and societal interactions (World Economic Forum, 2016). This continuous learning and development is called Lifelong Learning (LLL). Lifelong Learning can be defined as “all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective” (Commission of the European Communities, 2001; p.9). While LLL relates to the individual and the activities undertaken by the individual to develop personally and professionally, it does not mean that LLL is solely the responsibility of the individual. Facilitation and support by employers, educational, and government institutions is essential (ILO, 2019).

The strengthening of LLL has been on the strategic agenda of policy makers for many decades. It was receiving attention even in the 1960s it, with a particular emphasis at that time on the need to emancipate certain groups in society and offer them possibilities for personal development. Currently, it is the economic value, that is, being and remaining employable, that prevails (e.g., Bengtsson, 2019; Biesta, 2006). Despite the long tradition, successful implementation is lagging; international research points at the slow implementation process and the lack of support from various stakeholders (Bengtsson, 2013; ILO, 2019). Part of the problem with LLL is the responsibility and involvement of the multiplicity of stakeholders, each with their own target group, means, needs and interests.

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In 2019, the International Labour Organisation (ILO) urged the need to move towards a LLL ecosystem in which LLL is a shared responsibility based on the active involvement and support of government, workers, employers and educational institutions. The International Labour Organisation did not clarify what an ecosystem entails and how it contributes to the effective implementation of LLL. However, the literature on economic ecosystems (e.g., business, knowledge and/or innovation ecosystems) offers guidance. In this field an ecosystem is described as a group of interconnected organisations aimed at realising as a collective added value for end users (by developing and producing new products or services, and/or in developing new knowledge) (Autio & Thomas, 2014; Jacobides, Cennamo and Gawer, 2018). According to Fuller and colleagues (2019), an ecosystem flourishes in unpredictable and dynamic environments. In stable environments, traditional organisations and linear chain cooperation can be adequate. In a dynamic and volatile environment, a loosely organised and dynamic network of participants with semi-permanent collaborative relationships, such as in an ecosystem, facilitates agility and quick responses to environmental dynamics (Fuller et al., 2019). Distinctive aspects of an ecosystem are: (1) the relationship and interaction between the ecosystem (the set of organisations) and its wider context; (2) the actors in the ecosystem and their place in the ecosystem (centre vs. periphery) and (3) the relationships and interactions between these actors. Openness of the system, heterogeneity of actors, the interdependence between these actors and agency are important characteristics of an ecosystem.

Previous research on LLL mainly focused on LLL policies on a European and national level, and on policy changes regarding LLL. This article highlights one core-aspect of the LLL ecosystem as it focuses on the actors in the LLL ecosystem. It aims to shed light on the stakeholders involved in LLL and their role in the ecosystem. The paper discusses developments in Europe in general and in the Netherlands specifically, based on an analysis of relevant literature and documents. We start by describing the historical developments regarding the objectives of LLL and its learning activities. Accordingly, we discuss the shift in actors involved in LLL and their roles. The article concludes with some recommendations for higher education institutes.

THE OBJECTIVES OF AND LEARNING ACTIVITIES IN LLL

The value of LLL: a shift from learning to be to learning to earn

Because of the dynamics both outside and inside the ecosystem, it is important to pay constant attention to the shared ambitions or objectives of the actors involved. The upper rows of Table 1 show the shift in objectives and focus in LLL over the years.

	≤ 1960/1970	1990/2000	Since 2020
Aim	Personal development, emancipation and inclusion.	Employability and productivity	Agility
Main focus	Education	Learning	Development
Learning activities	Initial and post-initial (formal) education	Formal and informal learning activities	All formal and informal learning activities and career guidance and counselling
Actors in the lead	Education institutions and Individuals	Employers and Individuals	Individuals, Employers, and Education institutions

Table 1: The shift in focus, aim, activities and actors in LLL

Lifelong learning was set on the European and national policy agendas around the 1950s/1960s. It was primarily seen as an emancipation tool to reduce inequalities based on the educational background of certain groups in society (e.g., older generations, women, immigrants) and to improve quality of life (Volles, 2016; Bengtsson, 2013). In the late 1960s, the Swedish Prime Minister Olof Palme introduced the concept of LLL across the lifespan, arguing for 'learning to be', aimed at 'fulfilment of man and mankind as a whole'. Everyone had the right to a good education and opportunities for self-fulfilment, even in later stages of life.

In the 1970s, this humanistic view of LLL began to integrate with a more human capital perspective as learning and training for work gradually became a more prominent objective of LLL. In the 1990s, European governments noted that skills and knowledge were rapidly becoming obsolete, and companies stressed the need of up-to-date skills and knowledge for employees to stay ahead of the competition (Bengtsson, 2013). The call for continuous development in order to stay productive and employable became stronger (ILO, 2019). This emphasised the shift from a humanistic to an economic approach (i.e., an emphasis on work and importance for economy) and to a neoliberal approach to LLL (i.e., an emphasis on responsibility of the individual in developing qualifications for future employability) (Volles, 2016; Biesta, 2006). This trend was galvanised in the 2000s by the Lisbon Strategy, whose ambition was to make Europe the most competitive and dynamic knowledge-based economy in the world (Jarvis, 2007). Education and training, including of the workforce, were seen as essential tools to making that happen (Volles, 2016; Biesta, 2006; Bengtsson, 2013).

In the late 2010s, there was a growing voice and influence from the world of business. Employers started pointing at a skills gap and urged educational institutions to offer more educational programmes that are relevant for business and to make education more flexible to facilitate continuous development from cradle to grave (Volles, 2016; ILO, 2019). More recently, the Covid-19 crisis and its impact on the labour market showed the importance of agility as an objective of LLL: a person needs to have the skills and knowledge to be employable in current and future jobs, and the willingness and potential to easily switch sectors and occupations. The aforementioned skills gap is now being replaced by an agility gap, as citizens face struggles to respond quickly and proactively to labour market developments. This agility gap places demands on employees to be constantly working on their development.

In summary, LLL can serve three purposes: (1) emancipation and social inclusion; (2) personal development and self-actualisation; (3) economic employability and productivity (Biesta, 2006). According to Biesta (2006), the objectives shifted from ‘learning to be’ to ‘learning for earning,’ and the economic dimension is given more priority than development as a person and emancipation.

Learning activities: a shift from a narrow to a broad perspective

Related to these shifts in the objectives of LLL, publications also point at a shift in the nature of learning activities (Biesta, 2006; ILO, 2019). In the 1960s and 1970s, for example, LLL was built on the provision of (post-) initial education by public educational institutions (controlled by the government) for all citizens. It gradually shifted to training, courses and more non-formal learning activities for workers in the 2000s, and currently, LLL includes a total package of development opportunities that an individual can make use of: formal, informal, and non-formal learning activities and career advice and guidance for both working and non-working target groups (Tuschling and Engemann, 2006; Field, 2000). Moreover, the Netherlands, boosted by the activities of the Dutch Social and Economic Counsel, are promoting a broad variety of measures and actions in governmental policy documents. These include activities focussing on the transition from school to work, the promotion of a

learning culture in companies, or learning activities that increase the sustainable employment of those within vulnerable sectors of the labour market.

ACTORS INVOLVED IN LLL

As mentioned above, the heterogeneity of actors is an important characteristic of an ecosystem Suppliers, producers, end users and funders are all part of an ecosystem network (Moore, 2006). Each actor has its specific and unique role and actors need each other to achieve their mutual aim (Fuller et al., 2019; Moore, 2006). Moreover, according to the ecosystem literature, all actors in the ecosystem have agency and a high degree of autonomy, including end-users (Fuller et al., 2019). Nonetheless, some actors may be more at the centre of the ecosystem and others at the periphery, and therefore have more or less power (Koenig, 2012). In this section, we will describe the main stakeholders in LLL, the shift in their role in LLL (also see Table 1), and the multiplicity of organisations who represent these stakeholders in the national and regional LLL ecosystem.

From governmental to individual responsibility

Research on collaboration in LLL in the south of the Netherlands shows four main actors in LLL: governmental organisations (including intermediaries), education institutions, employers and workers (Thunnissen, 2021). In recent years, there has been a shift in who is most responsible for LLL. In the early years of LLL, the government, together with public educational institutions, were in the lead, in particular in the development and facilitation of appropriate initial and post-initial education for a specific group of adults (those who had no previous education). In 2000, Field stated that the direct influence of the government on LLL had decreased. Following a time of low involvement, however, governmental organizations once again moved from the periphery to the core of the Dutch LLL ecosystem. Currently, the central government has taken on the role of policy maker, promotor, and funder of LLL. In 2018, the Dutch government asked the Social Economic Counsel to assume a boosting role in LLL (SER, 2020a), and in 2022, the government granted a nearly 400-million-euro fund to a partnership of secondary vocational institutes, universities of applied science and regular universities to jointly boost LLL on behalf of public education (LLL Catalyst, 2021). As we will later demonstrate, particularly at the local level, governmental organizations play a prominent role in LLL.

With an emphasis on productivity and employability, the role of the employer has increased enormously, with employees being LLL's most important target group. Currently, many Dutch organisations acknowledge the importance of LLL and offer both training and development opportunities to their employees or allocate a budget for this purpose (SER, 2019; SER, 2020b). Therefore, the employer holds a multifaceted role as producer, funder and/or end user of LLL activities within the LLL ecosystem. Compared to other countries, the Netherlands scores high on participation in formal activities aimed at LLL (SCP, 2019). However, when it comes to informal learning, the Netherlands belongs to the middle ground within the EU (SCP, 2019). Several reports mention that the lack of a learning culture within companies is one of the bigger bottlenecks in LLL in the Netherlands (e.g., SER, 2020a).

The important role of education as a 'producer' of learning activities is beyond dispute. In the 1960s/1970s, public education institutions played a significant role in the LLL ecosystem. Yet, with the increasing responsibility of the employer in LLL and the broadening of LLL activities, private educational institutions and training agencies have also found their place. In 2000, Field (2000) argued that most LLL activities took place in the private domain (in organisations and by private providers), and this is still the case. Private institutes are far more agile and able to adapt to the user's needs, and this increased their share on the

'education market' significantly at the expense of public education institutions. Furthermore, the role of public sector institutes has been highly criticised in the past. Various sources mention that the education system itself is one of the key problems regarding LLL. Important points of critique include the mismatch between the educational programmes and the needs of employers in the labour market, and the institutes' inflexibility and inability to address the changing needs of employers and workers (Bengtsson, 2013; Biesta, 2006; Rijksoverheid, 2020; Volles, 2016).

On the individual level, we see a shift from certain disadvantaged groups based on their education to all those involved in the labour market, both unemployed and employed. The financing and actual learning and development of LLL are increasingly becoming the responsibility of the workers themselves, in coordination with their employer (Field, 2000). In terms of the business ecosystem, the individual is both the end user of LLL activities and the funder. Biesta (2006) and others (e.g., Tuschling and Engemann, 2006; Field, 2000; Jarvis, 2007) point to the increasing individualisation in the approach to LLL on the one hand, and, on the other hand, a shift from the right to follow education to the individual's duty to ensure his/her continuous development and employability. According to Tuschling and Engemann (2006), the core responsibility of the contemporary lifelong learner is to maintain the ability to learn and unlearn according to the circumstances, but research shows that Dutch employees do not feel a sense of urgency to develop themselves. Most workers believe that they are sufficiently equipped to perform their job now and in the near future, and that they need no additional training (SCP, 2019).

A shift from national to regional stakeholders

International publications discussing policy development at the European level show that up until the 2000s, LLL was primarily an issue debated at the European rather than at the national level (Volles, 2016; Bengtsson, 2013). In the years following, LLL gained more traction at the national level. Goldtseyn (2012) concludes that in the Netherlands, despite important policy recommendations having been addressed in certain projects, none of these efforts were reflected in an increase in training participation by adults. In 2013, Bengtsson recommended linking LLL to economic, social, and cultural developments at the local level in cities and regions, since it would be easier to take steps on a local level than at the national level. In addition to the national LLL policies and activities implemented by the Ministries of Economic Affairs, Social Affairs and Education and national action plans from the Social Economic Counsel, the Dutch Social Economic Counsel is also firmly committed to stimulating LLL in regions and sectors (SER, 2020a), and to have employees, employers, local authorities and education working together in a regional ecosystem to implement LLL. In the regional ecosystem, local Dutch governmental organisations – originally mainly involved in facilitating participation and training and development of the unemployed – play a dominant role in facilitating LLL among the unemployed as well as the employed labour force, as captured, for example, in regional human capital agendas (Thunnissen, 2021). Other core stakeholders in LLL – education, employers and employees represented by trade unions and professional associations - are often more at the periphery of the regional LLL ecosystem and have (and/or take) less administrative and actual authority and agency.

The multiplicity of actors

Finally, the four main stakeholders in LLL - government, education, employers and workers (including jobseekers) – are, in practice, represented by a wide range of organisations on a national, regional and sectoral level (see Table 2 for a further elaboration). As a result, the number of stakeholders involved in LLL policy-making, funding, implementation and participation in the Netherlands is huge, and includes thousands of citizens and employers or companies, social partners, industry associations and R&D funds, various local authorities, various ministries and public advisory bodies, as well as many public and private providers of

learning and development activities (Field, 2000; Bengtsson, 2013; Gielen, Moerman and Bobeldijk, 2017). The multiplicity of actors at multiple levels creates multiple connecting ecosystems. This complexity hinders employers and individuals – both end users - from gaining an overview of who provides what kind of support and has a role to play (Thunnissen, Rosendaal and Koop-Spoor, 2021).

Individuals • Workers: employed, unemployed, self-employed • Work council • Trade unions, professional associations	**Employers** • HR-department, career centre, corporate academy, management • Employers' organisations, both sector-specific and nationwide • Sectoral funds for L&D of employees
Government • Regional mobility teams • Municipalities, employee insurance agents • Employer service point • Service centre on education and work • Regional investment companies • Ministries (of Education; Social Affairs and work; Finance) • Tax authorities • Social and economic council	**Education** • Public funded (vocational) education institutions (secondary and higher education) • Private funded education institutions • Training and consultancy agencies • Career counselors • Online learning platforms • 'Boundary crossing' organisations, bridging employers and education

Table 2: Representatives of core stakeholders in LLL

CONCLUSION AND RECOMMENDATIONS FOR EDUCATION

This paper aimed to shed light on the stakeholders involved in LLL in the Netherlands and their role in the ecosystem. Government, education institutions, employers and workers (including jobseekers) were identified as the four main actors. We also concluded that in the regional LLL-ecosystem, governmental organisations are in the lead and, despite their crucial role as producers and end-users, education institutions, employers and workers are more at the periphery of the regional LLL ecosystem and have less agency. A second important finding is that these four main stakeholders are, in practice, represented by a wide range of organisations on a national, regional and sectoral level. This may be limiting for workers and employers, but also for educational institutions as the producers in the LLL ecosystem. The lack of transparency regarding the actors, both of competitors and of potential cooperation partners and participants, can delay the development of an adequate LLL strategy and LLL portfolio.

We see education institutions as crucial stakeholders in LLL, worthy of a position in the core of the LLL ecosystem. For this to come to fruition, it is important to know what is going on in the local labour market and which regional actors – the organisations but also the specific staff members – are involved, as well as their needs and ambitions. A stakeholder analysis might be a useful technique to identify the local actors, and we recommend looking beyond the competitors as well to identify user groups, funders, policy advising and policy making organizations in order to get a complete picture of the relevant network. Please be aware that the shifting dynamics of LLL imply that organisations and persons will both join and leave the ecosystems. As such, it is important that the analysis be evaluated frequently. Also, of

relevance is having an awareness of if and where these stakeholders meet, and to be one of the stakeholders present at these meetings and commissions. It is also essential that you define the role you want to play in the regional LLL ecosystem, based on your strengths and strategy as an educational institute. Finally, realising your LLL ambitions is not a single-person-job. It is a long-term process ultimately realised by a multidisciplinary team that includes colleagues with different contacts in the region to help achieve organisational and the ecosystems' ambitions.

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HOW TO SUPPORT UNIVERSITIES IN STRENGTHENING THE IMPACT OF ULLL AND UCE ACTIVITIES. THE ROLE OF THE ITALIAN NETWORK OF UCE (RUIAP)

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Keywords: *Lifelong learning, impact, quality assurance, qualitative growth, collaboration, guidelines*

ABSTRACT

Italian universities recently underwent evaluation by the Italian National Agency for the Evaluation of Universities and Research Institutes (ANVUR), with a specific focus on assessing their impact during the 2015-2019 period. This evaluation brought to light significant concerns related to the universities' utilisation of the assessment of the impact of the Third Mission activities made by ANVUR. Notably, there was a lack of attention to the impact of their activities on regional development and social cohesion.

In response to these findings, the Network of Italian Universities for Lifelong Learning (RUIAP), a coalition of universities dedicated to supporting Lifelong Learning (LLL) and University-Community Engagement policies and strategies, established a dedicated working group. The primary goal of this working group was to develop comprehensive guidelines aimed at helping universities reframe their approach to evaluation. These guidelines provide a framework for universities to transform the evaluation process into a pivotal moment for qualitative growth, development, and ongoing improvement.

This contribution aims to shed light on the process involved in crafting these guidelines and underscores their significance in strengthening the awareness of Italian universities. These guidelines serve as a catalyst for fostering collaborative relationships between universities and their respective regions, ultimately facilitating more impactful engagement and development initiatives.

THE EVALUATION OF THE THIRD MISSION IN ITALY: AN INTRODUCTION

In Italy, the evaluation of the Third Mission is carried out by ANVUR. The ANVUR perspective draws back to work that started several years ago on the different forms of social responsibility in which Italian universities and research institutes are engaged and on the criteria for measuring and enhancing their impact. ANVUR recently produced the third round

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of the research evaluation exercise, the Evaluation of Research Quality (VQR) 2015-2019. In the previous VQR exercises, the Third Mission was evaluated in an experimental way through a sample of activities carried out by universities and research institutes. Using a different approach, the impact of the third round of Third Mission activities was evaluated through “case studies”. In fact, the 2015-2019 VQR exercise, which ended in June 2022 with the publication of results and the list of assessed case studies, refers to an “open” definition of impact. It aims to give individual institutions the opportunity to show their own Third Mission initiatives with greater social impact with a bottom-up approach (see Blasi, 2023).

Italian universities and research centres have submitted nearly 700 case studies for 130 institutions in total whose impact has ranged across all the ten fields of action:

1. Valorisation of intellectual or industrial property
2. Academic entrepreneurship
3. Technology transfer structures
4. Production and management of artistic and cultural assets
5. Clinical trials and health initiatives
6. Lifelong learning
7. Public Engagement
8. Production of social, educational, and political public goods for inclusion
9. Innovative tools to support Open Science
10. Activities related to the Agenda ONU 2030 and the Sustainable Development Goals.

The impact described has been substantiated through a set of relevant and meaningful indicators and evidence chosen by each institution to demonstrate the differences compared to the initial situation. The quality of the submitted case studies has been assessed and expressed into a 5-point rating scale, thus circumventing a vision of ranking between universities.

The Third mission Group of Evaluation (GEV TM) nominated by the ANVUR has evaluated each case study according to the following criteria:

1. Social, economic, and cultural dimension of the impact
2. Relevance to the context of reference
3. Added value for the beneficiaries
4. Contribution of the proposing institution, emphasising the scientific aspect where relevant. Each case study was classified by the GEV TM into one of the following categories: excellent and highly relevant, excellent, standard, sufficient relevance and low relevance or not acceptable.

The VQR results are used to allocate the premium share of the Ordinary Financing Fund (FFO) of the Ministry of Universities (5% of the total).

Indeed, in Italy, over the course of several years, the allocation of state funds to universities has been subject to an ongoing "correction" that considers the evaluation conducted by the National Agency of both the quality of research and, starting in 2022, the Third Mission (TM), in addition to the number of current students.

Since lifelong learning is one of the fields of TM, the RUIAP (Network of Italian Universities for Lifelong Learning) has started a working group (https://www.ruiap.it/le-iniziative/gruppi- di-lavoro-e-servizi/) to support universities in their process of recognising the impact generated by LLL and UCE initiatives. The RUIAP, established in Genoa on 16 November 2011, associates 32 Italian universities and several affiliates (organisations, experts, teachers).

The member universities intend to promote the development of lifelong learning in their universities, as an active contribution to the knowledge society, for the enhancement of the individual and the growth of the economic, social, and cultural system of the country. They refer to the principles of the European Universities' Charter on Lifelong Learning, which identify the development and implementation of strategies for LLL as an institutional mission of the universities, necessary to face the transformations of society in synergy with the actors present in the different social and economic contexts.

The RUIAP, whose mission is to strengthen LLL within universities and in dialogue with institutional and social actors, aimed to support its member universities in the complex work of reporting on TM activities. To carry out proper social reporting of their TM initiatives, and to initiate a dialogue with ANVUR to ensure the use of shared methods and tools for the evaluation of the Third Mission, a working group took place. The working group initiated a reflection on the way criteria for assessing the impact of the case studies selected by the universities were interpreted and then applied by ANVUR. This, turn, helped create a systemic learning perspective to respond to the increasingly palpable and widespread need for social reporting of the universities' activities.

THE WORK OF THE RUIAP WORKING GROUP ON THIRD MISSION TO IMPROVE IMPACT MEASUREMENT

Lifelong learning and open education are one of the ten fields of action that allow for presenting case studies in this regard. It allows for the presentation of 'case studies' that can refer to “any activity undertaken by people in a formal, non-formal and informal way, at various stages of life, to improve knowledge, skills and competences, in a personal, civic, social and employment-related perspective” (ANVUR, 2021, p. 73).

Field F (Lifelong Learning) includes continuing education courses, continuing medical education, MOOCs, but not master’s degree courses, professional-based courses, training initiatives regulated through third-party agreements and a dual system of vocational training activities (ANVUR, 2021, p. 75). Some initiatives such as (short) master (postmaster degree level university courses), for example, are not considered LLL activities, since they are potentially targeted at so-called 'non-traditional students,' to adults coming out of formal EQF level 6 or 7 courses, or to professionals.

The GEV's endeavour to establish evaluation criteria based on impact added value for the beneficiaries, and relevance to the context was highly regarded by the universities. Consequently, the RUIAP TM Working Group deemed it fitting to commence a constructive and collaborative discourse with ANVUR to promote evaluations that are increasingly mutually beneficial and effective. The group sought to establish guidelines for the evaluation of universities' lifelong learning (LLL) activities, with the aim of engaging in a direct dialogue with ANVUR and the scientific community of evaluators affiliated with the Italian Evaluation Association (AIV). By means of a participatory process, which included universities and local stakeholders, the working group developed guidelines to assist universities in transforming the evaluation process into an opportunity for qualitative growth, development, and enhancement. Convened in the form of seminars and sharing sessions, a series of discussion meetings centred on the guidelines were conducted at three prominent Italian university locations, namely University Cattolica in Milan on 10th March 2023, Genoa on 5th May 2023, and LUMSA in Rome on 29th May 2023. A further opportunity to work with stakeholders will take place on 20 September as part of the XXV AIV (Associazione Nazionale Valutazione) Congress in Rome.

The initial stage of the preparatory process for the guidelines involved delimiting the boundaries of LLL within the academic Third Mission. This undertaking was not a foregone conclusion, given the numerous educational initiatives that universities have traditionally undertaken and, accordingly, are tasked with evaluating. Lifelong learning represents a transversal "field" that intersects with the university's three missions. The group aimed to offer thought-provoking insights and valuable tools for the evaluation process (Piazza and Rizzari, 2021; Piazza and Calvano, 2022). The guidelines' creation aimed to promote the adoption of detection models, procedures, and tools that enable an assessment of LLL's impact consistent with universities' social reporting requirements.

The working group observed that evaluating LLL activities in the broader context of Third Mission initiatives presents an opportunity for growth and improvement not only for the university's quality processes, but also for the personnel involved in executing them. The challenge, in this regard, is to identify how evaluation processes can stimulate learning processes that improve the quality of human capital, foster professional development and growth of university personnel, and enhance the quality of the goods, services, and programmes that universities provide as part of their Third Mission. Pursuing and implementing quality processes provides us with an opportunity to learn and better understand our mission, revealing the formative and transformative function of evaluation.

To promote the self-evaluation process of universities and enhance their ability to design LLL activities, the working group decided to refrain from providing ready- made solutions and operational guidelines, which may fail to account for the unique territorial contexts in which Italian universities operate. Instead, an inquiry-based approach was adopted, employing thought-provoking questions to encourage those involved in the planning and evaluation of LLL activities to contemplate the entire process, from its inception to the social outcomes that such activities may yield. The questions that were developed - constructed in a participatory manner by the working group and seminar participants - considered a number of fundamental dimensions: mission of the universities and coherence between the university mission and LLL activities; stakeholder involvement in the process of needs analysis, design, and evaluation of outcomes and impact; design of specific LLL activities; evaluation and transferability of outcomes; and external (social spill overs) and internal impact (improvement of teaching, exploitation of research results). The informal and public discussions facilitated by the working group have played a crucial role in assisting participants during the sessions to establish the parameters of LLL and enhance its evaluation in relation to the resulting impacts. Through the proposal of evaluation queries based on the criteria that define impact for universities, it has been feasible to identify indicators that are commonly acknowledged and widely accepted.

The working group proposed the utilisation of the Kirkpatrick model (1959, 1976), which is considered valuable in contemporary contexts as well (as evidenced by Aljawharah and Callinan, 2022). This model identifies four successive steps necessary to ascertain the impact of a continuing education intervention. These steps include reaction, learning, achievement of behavioural change and organisational changes, leading to defined results.

In this manner, the working group proposed to measure not only the initial reaction (often limited to student satisfaction) and learning (typically assessed at the conclusion of the intervention) but also changes in individual behaviour and their respective organisations. These changes are measured at 6 to 12 months following the intervention. The working group has put forward a comprehensive set of indicators for each step, encompassing factors such as job satisfaction, career advancement, salary improvement, increased responsibilities, autonomy, creativity within the job and, for organisations, growth in turnover or added value, penetration into new markets or product development, increased export rates, and more.

It is important to note that these indicators are not without costs; they require a dedicated effort for data collection after the completion of the training. However, they are indispensable for calculating not only the impact of the intervention but also for assessing the social responsibility of universities.

The participatory approach was implemented through a collaborative process of developing evaluation questions and defining indicators by participants in the "workshop of shared ideas" on Third Mission evaluation, with a focus on LLL initiatives and the broader mission of evaluation as a reflective exercise for institutions. By engaging in a dialogue with the RUIAP working group, the AIV, and the ANVUR staff responsible for analysing TM results at the national level, it was possible to 1) identify evaluation questions that serve the universities; 2) propose potential common and shared indicators; and 3) construct "theories of change" based on critical cases, which can serve as a guide for the next evaluation exercise, as well as in the logic of academic TM that generates "public value" for communities. The formalised guidelines have been presented at the RUIAP Spring Conference in May 2023 in Rome, held in collaboration with AIV and ANVUR at LUMSA University. As a result of RUIAP's efforts in this area, a memorandum of understanding between ANVUR, RUIAP, and the Italian Association of Evaluators was signed on 29 May 2023 in Rome. The final version of the guidelines will be prepared after the definition of the guidelines of the evaluation committee that ANVUR will nominate in the future. The aim of the guidelines is not only to better describe the “case studies” that universities will propose to the evaluation, but also to provide the associated universities with a tool to better define the social impact of their action towards society. In this vein, we hope that universities will adopt the indicators that they consider more useful to describe the ways in which they meet the needs of local societies and of the main stakeholders of their territory.

CONCLUSIONS

The endeavour undertaken by the working group has reinforced several significant insights. Firstly, the act of purposefully designing with the intention to generate impact provides an avenue for creating value and meeting the educational requirements of the wider public. Impact evaluation is undoubtedly an intricate and time-consuming undertaking, the outcomes of which can only be attained by embracing the principles of impact-driven design and recognising the evaluation process as more than a mere bureaucratic obligation. Instead, it should be regarded as a valuable opportunity for both personal and organisational growth and development.

The RUIAP initiative has revealed that numerous activities fall under the umbrella of LLL. It has fostered a collaborative reflection among various universities, leading to shared definitions. These definitions have also gained acceptance through the recent call for the new VQR 2020-2024. Furthermore, by considering how they evaluate the effects of their AP (Advanced Placement) actions, universities have recognised the necessity of measuring them more rigorously, employing standardised criteria and indicators wherever possible. This approach allows for continuous improvement and facilitates result comparability with other universities.

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HOW RESEARCHERS REACH IMPACT THROUGH CONTINUOUS PROFESSIONAL EDUCATION WITH AND FOR HEALTHCARE PROFESSIONALS

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ABSTRACT

Creating an impact on healthcare by interweaving research and education is beginning to receive more attention. Researchers are developing and investigating learning opportunities for the continuous professional education of healthcare professionals who can then directly implement this co-created knowledge in a learning healthcare system. In this paper, we present two examples that demonstrate how broader organisational developments that intend to connect impact of research and professional development must address practical challenges.

INTRODUCTION

In the past, (bio)medical research and education for medical professionals were rather separate fields. Researchers published their findings in scientific papers, while learning developers independently and selectively incorporated these findings into educational materials. Plans for disseminating research were typically buried in the research proposal's final section. Fortunately, some new developments have changed this landscape, creating a more interconnected triangle of research, education, and impact on everyday healthcare practice (King *et al.*, 2016).

First, researchers are increasingly expected to create an impact with their work. This expectation is particularly evident in the UK, with other countries following suit. Publishing findings in an academic paper is no longer the endpoint of a research project. Nowadays, researchers strive to achieve different aspects of impact, such as attitudinal or policy impact, and reach out to different stakeholders throughout the research process. In healthcare, participatory approaches are advocated to make the research more relevant for the anticipated audience (Hasson *et al.,* 2020) and thus have greater impact.

Second, partly in response to the challenges with implementation, action and design-based research are becoming popular, allowing for collaborative knowledge generation. Changing practice is increasingly seen as complex: knowledge is not simply 'packaged, transferred, picked up, and then finally used' by clinicians (Uvhagen *et al.,* 2019, p. 9). Nowadays, there is a widely held awareness that research findings are wasteful if they cannot be implemented in (clinical) practice (Greenhalgh *et al.,* 2016).

Furthermore, both developments can facilitate continuing professional development (CPD) and – education (CPE) of medical professionals. Traditional designs used in continuing medical education (CME) are lecture-based, even when modern tools such as e-learning are employed (Hadadgar *et al.,* 2016). To disseminate the latest research findings, CPD and CPE could be more helpful for clinicians to keep up with their knowledge (Dionyssopoulos *et al.,* 2014). For example, general practitioners could explore their own clinical practices as a context for lifelong learning (Stabel *et al.,* 2022) and thus build a learning healthcare system. Other pedagogical approaches for CPE, where reciprocity and co-creation are essential, align well with the changes in (bio)medical research. Implementing recommendations of practice guidelines involves more than just putting them on a website. Educational strategies, previously separated from the research, are now more interwoven and considered research topics in their own right and are respected for their knowledge contributions to clinical practice.

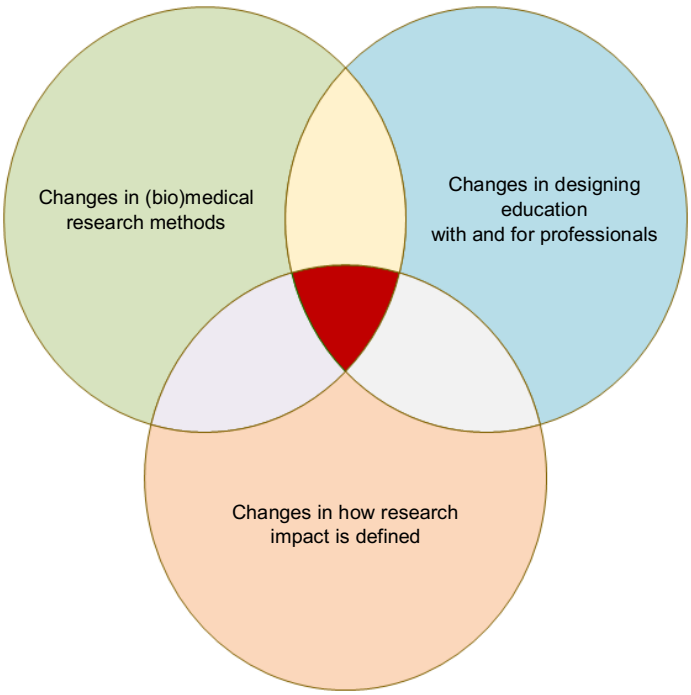

Figure 1: Illustration on how our approach is inspired by the overlap between three different developments described in the text

Researchers of the department of General Practice & Nursing Science at the University Medical Centre Utrecht aim to create research questions that are suitable for participatory approaches, building, developing and maintaining sustainable partnerships between education and research. We highlight two of our projects as case studies; a completed and starting study. Next, we reflect on our cases, discuss how these cases have broader transferability potential and what needs to be done next.

THE ZOUT PROJECT

The ZOUT project ('ZOrg op de juiste plek in Utrecht'; Care at the right place in Utrecht) focussed on how general practitioners (GPs) and medical specialists who work in the hospital use clinical practice guidelines. This was done in Utrecht, the Netherlands. First, GPs and medical specialists (MSs) had jointly created collaborative patient care agreements (CPCAs) using clinical practice guidelines in which researchers translate their findings for practice. Based on (bio)medical evidence provided by researchers, these CPCAs describe when patients should be referred to the hospital and when a referral back to the general practitioner should take place. This is intended for patients with (i) diabetes, (ii) chronic obstructive pulmonary disease (COPD), or (iii) who needed cardiovascular risk management. Because compliance with CPCAs is not guaranteed, a learning community was created by bringing together patients, GPs and MSs from different medical disciplines. None of the GPs and MSs had been involved in developing the CPCAs.

In this learning community – called the 'Optimal Care Table' – general practitioners, medical specialists, and patients discuss how the CPCAs could work in practice; an environment of 'learning through discussion' was created. Questions to be answered were: 'Is the patient managed in the right place? Do we know what to expect from each other to make the right choices?' To facilitate the discussions, we used 'mirror information' from routine care of both GPs and MSs (Vermond *et al.,* 2021, Vermond, 2022). Figure 2 shows the IF-THEN scenario as prescribed by the CPCAs that was used as mirror data during the Optimal Care Tables. In the mirror data, findings from research (for example, with which blood pressure values patients should be referred to a specialist in the hospital) are contrasted with actual behaviour within clinical practice. Mirror data is used to support learning processes close to the actual work processes of participating professionals (Vermond, 2022). By linking routine hospital and primary care data, the actual compliance ("are we doing what we agreed upon?") with the agreements in the different CPCAs could be visualised and critically reflected upon. Aiming at cultural and attitudinal impact by stimulating answering questions such as "What do we think about this? What could be done better/differently" How do we achieve this?".

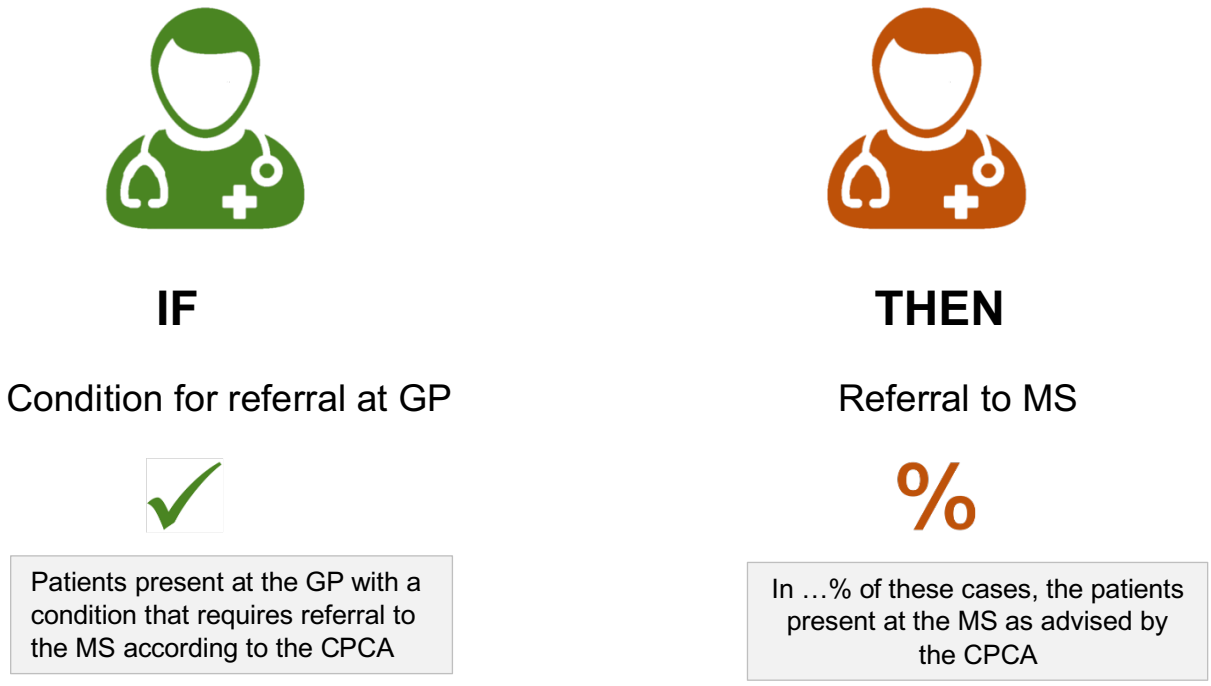

Figure 2: Illustration of the IF-THEN scenario used as mirror data. GP = general practitioner; MS = medical specialist in the hospital

Using mirror data from linked patient records is not a new concept and has been used in the design of the Optimal Care Tables based on change lab design (Vermond, 2022). What is new however, is the use of mirror data to better understand and improve the use of collaborative patient care agreements. Within each 'Optimal Care Table,' the mirror data served as a framework to reflect on the CPCAs. This helped GPs, MSs and patients to learn from each other and, at the same time, improve regional collaboration. For example, the CPCA for type 2 diabetes patients recommended referring a specific class of patients with foot problems to the surgeon. The mirror routine care data provided insight into whether this happened. If these patients were referred to a different discipline, is this wrong or should the CPCA be adjusted? What circumstances should be considered for non-compliance? How could we solve this problem; who needs to do what?

The key is that these and other new insights can be quickly applied in daily practice. Therefore, every Optimal Care Table is set up in an action-oriented way: participants concluded each meeting with concrete actions that they could carry out themselves 'tomorrow' in their own practice. As a result, the 'Optimal Care Table' concept is not a refresher course with 'just in case' knowledge, as is often happening in many CME courses, but a methodology that is closely intertwined with a regional, learning healthcare system. After experimenting with the Optimal Care Table for one year (with 33 professionals in a first round of six sessions and more than 200 participants in an online form during Covid), the long-term ambition is that regional healthcare organisations ensure that their GPs and MSs participate in Optimal Care Tables once or twice a year (Vermond, 2022). Implementation of this ambition is integrated in a large project within our hospital on collaboration in the region where research, care, and education meet. The lessons learned in the ZOUT project provide valuable input for this project (especially the importance of stakeholder involvement), even though new Optimal Care Tables have not yet taken place.

THE SAFETY FIRST ACTION PROJECT

This project is about telephone triage during out-of-hours services in primary care (OHS-PC) in patients with chest discomfort or neurological deficit. The Safety First Action project is a sequel of the Safety First project (Erkelens et al., 2019). Within the Safety First project, approximately 4000 phone calls were reviewed, scored, and analysed for a variety of endpoints. This data was used to analyse the safety and efficacy of decisions made that were guided by the semi-automatic computer-based clinical decision support system used at the OHS-PC; the Netherlands Triage Standard (NTS) (Erkelens et al., 2020, Wouters et al., 2020). A new, well-performing diagnostic model for ACS was developed (Wouters, 2022). Furthermore, conversation analysis was used to interpret recordings and identify challenges in the communication between triage nurses and callers (Erkelens et al., 2020). Finally, the workability of the NTS was investigated through an interview study with triage nurses (Wouters et al., 2020).

The Safety First Action project aims to improve the telephone triage at OHS-PC nationally by implementing, through action research (Hampshire, 2000), the findings from Safety First in the daily work of triage nurses, eventually in all OHS-PCs in the Netherlands. In agreement with NTS, a team of directly involved stakeholders (e.g., GPs, triage nurses, patients) will cyclically contribute to evaluating the process and change of the study workflow to improve the acceptability and workability of NTS in daily practice. Each action research cycle will consist of the four conventional phases: plan, do, study and act (Hampshire, 2000). In each phase, we will collect data and evaluate whether adjustments are necessary. This approach will allow us to develop further the adoption of the results from the Safety First project while simultaneously studying and improving the process itself.

Within Safety First Action, continuous professional development of triage nurses is important, as it is essential for the researchers involved to reach impact with the results of earlier studies. The training sessions with triage nurses will be used as an explicit strategy for impact, and these are also subject to research as in their own right, as the design of the training of a diverse group of triage nurses will take part in co-creation. This strategy of using co-creation in higher education is gaining interest (Bovill & Woolmer, 2019). Several articles have explored co-creation in various medical-educational fields, such as general medical education (Könings *et al.,* 2021), nurse mentorship (Frøiland *et al.,* 2023), and medical faculty development (Iqbal *et a*l., 2023). However, knowledge about co-creation in (continuous) training of experienced medical professionals is lacking. Thus, the Safety First Action project will likely offer interesting new perspectives.

The participating triage nurses are already fully trained and qualified for their jobs, using decision support systems without the research-based changes. Their working experience allows them to identify difficulties in telephone triage which may provide material for developing education relevant to their daily practice. Because they are active professionals, they can directly apply new skills and knowledge into practice and thus determine the usefulness and efficacy of the education. Triage nurses' specific input along with the knowledge gained by developing the education, aligned with modern ideas about educating professionals, will very much help the uptake and workability of the adjusted NTS. Because the professional training of triage nurses will be provided by other triage nurses there is no hindrance of power imbalance that can be an obstacle for co-creation. This imbalance is a common problem between students and teachers (Könings *et al.*, 2021).

Naturally, we can expect to encounter several challenges. We need to be aware that the knowledge of the triage nurses in the educational design and the researchers' scientific findings from previous projects will both be considered legitimate knowledge. Another challenge might be that triage nurses have to switch from their customary role as participants in CME to developers of CME. Finally, in contrast to other co-creation studies – where students are mostly "full-time" students – our participants already have a job and education is just a tiny part of their daily work. The continuous professional education for most triage nurses in The Netherlands consists of several hours each year, and they create their own lifelong training environment. The Safety First Action project can help to guide future research implementations and education in similar settings.

BROADER TRANSFER POTENTIAL AND CRITICAL REFLECTION

This paper describes two projects where the focus is on the innovative design approach. The innovativeness is to be found in the combination of developments (knowledge translation by researchers, design of CPD, new research approaches) that were previously treated as separate activities, where building a network with stakeholders is key to ensure participation of busy professions. In Figure 1, the red intersection illustrates this innovative development approach of CPE, even though the content and the pedagogies build on existing models (in ZOUT, the foundation was a change lab design). This approach is relevant for universities where researchers not only teach students within the university but increasingly also teach lifelong learners outside of their institutions.

Upon critical reflection of our cases, we see that involvement of stakeholders in our network is essential in ensuring an agile curriculum of CPE activities whose content is better aligned with findings from recent research. However, in distributing this approach to a wider audience, such involvement is challenging and time consuming. We need to make newly developed pedagogical designs sustainable and incorporate the multi-disciplinary learning health care system approach in the regular training programme of professionals (Terry et al., 2022). For this, a change in governance of education is needed, an aspect addressed

recently by Vereijken et al. (2022) for interdisciplinary education. With a focus on the higher education setting, they recommend more flexible ways of organising interdisciplinary education (Vereijken *et al*., 2022). We argue that the same flexibility is necessary for continuous professional education and development in which researchers aiming for impact are involved.

CONCLUSIONS

These case examples describe how researchers can create impact by adjoining education and research, and how circulation of knowledge is facilitated by bringing diverse medical professionals together. Bridging theoretical ideals with practical challenges is needed to create a triangle of research, education, and impact and let it flourish. Outcome evaluations will provide added value in the future. At present, these examples have broader transfer potential because of their co-creation approach, with a focus on research impact that bridges the gap between researchers, practitioners, and educational specialists. Our approach brings forward new ways of sustainable lifelong learning.

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HOW TO FACILITATE COLLABORATIVE CONTINUING AND EXPANSIVE LEARNING?

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ABSTRACT

Change is a constant in many organisations. Combining sustainable change processes with learning for the professionals involved ensures that participants acquire the capacity to transform a given situation and capably steer future change at the workplace. In this conceptual article, we reflect on an approach for designing and investigating change processes where learning and change co-occur: Change-Laboratory. We draw on a case from our empirical work in the Dutch healthcare domain, where participants in a change process discuss, describe and disseminate collaborative patient-care-agreements. The most critical outcome of a Change-Lab is transformative agency, which is an evolving capacity of the collective to seek new possibilities toward change. It is essential for participants' lifelong continuing development. Universities would benefit from increased attention this outcome in order to learn expansively and facilitate these Change-Lab processes.

BACKGROUND

In many settings such as in healthcare organisations, universities, and commercial companies, change processes are continual and continuous. For healthcare, a variety of change intervention (CI) methods for organisational transformations have been described and put into practice (Taylor et al., 2014). In traditional CI methods, the focus and desired outcomes are frequently predetermined at the beginning of the change trajectory, often by those in management positions. This type of 'top-down' approach can create difficulties, especially when ideas around the direction or nature of the change differ (Engeström and Pyörälä, 2020) which endangers the feasibility and sustainability of the change. A more open-ended change intervention and research methodology, the Change-Laboratory (hereafter: Change-Lab), has been developed which addresses such tensions (Virkkunen and Newnham, 2013). Through Change-Lab, researchers, healthcare professionals, and

managers analyse problems in the work processes together, agreeing on the direction for change without setting fixed outcomes at the outset (Engeström, 2018). Participants democratically develop outcomes, in incremental cycles, and together evolve collective knowledge and activities in a process called 'expansive learning' (Engeström, 2018; Morris *et al.,* 2020). The Change-Lab approach simultaneously facilitates change alongside learning and research. As such, it aligns with modern ideas about continuing education which focus less on offering course material and more on learning while working.

We invite practitioners and researchers interested in transformations, in healthcare settings and elsewhere, to become enthusiastic about delving into the Change-Lab approach.

We recognize, however, that full implementation of the Change-Lab approach brings many challenges. One of the challenges may be the 'research-led' nature of the Change-Lab. Researchers collect materials from within the organisations that provide a historic overview of how processes have evolved and use this information to provoke discussions with participants during the change process. Showing and discussing these 'mirror data' (explained in more detail later) permits participants a deeper understanding of how processes came about and helps to imagine innovative outcomes. However, there is a limited availability of researchers with expertise in this approach and the participatory role for researchers add to other challenges, including the costs and time involved for a full Change-Lab approach (Virkkunen and Newnham, 2013). Therefore, in many change processes within healthcare the involvement of researchers may be considered unachievable.

Based on the arguments summarised above, we argue that sustainable transformation through change interventions requires an approach that participants do not view as top-down and where the focus is on collaborative learning. This dual ambition of change and learning can both be addressed using a Change-Lab approach. However, the problem remains that this approach may not be practical or fully achievable in healthcare settings.

Using the experience of our conceptual work, we argue that some of the theoretical concepts behind the Change-Lab provide a useful framework to investigate and implement change processes where participant learning is key. This learning is called 'expansive learning,' where learning and change co-occur while participants gain transformative agency.

To illustrate the potential value of the Change-Lab lens, this paper considers how using the Change-Lab concepts has enhanced our ongoing study of an already existing change process. We aim to discuss Change-Lab development at a general level by explicating the key concepts in the Change-Lab process. Within this, researcher-interventionist roles and mirror data are important features.

EMPIRICAL CONTEXT: THE CPCA PROCESS

The change project carried out was the development of a Collaborative Patient-Care-Agreement (CPCA), a project not initiated with Change-Lab's explicit focus on combining learning and change and without an explicit researcher role (Meijer *et al.,* 2020) (see box 1).

CPCA process: an existing professional practice

In Dutch health care, general practitioners, medical specialists and others, working in different organisations experience contradictions in delivering collaborative patient care. In some regions a medical coordinator arranges and organises meetings of involved professionals in 'CPCA-groups'. In these 'CPCA-groups', the common patient care trajectories are discussed and collaborative patient care agreements (CPCAs) co-created, over several meetings. In the CPCA, the roles of all professionals involved in the (chronic) care of patient groups is specified. In addition, the CPCA document describes the process of collaboration across organisational boundaries; who needs to be informed, when, how and so on. CPCAs thereafter are disseminated within the respective communities of the professionals in the region.

The iterative change process of creating and disseminating CPCAs provided opportunities to develop new means of crossing boundaries, improving collaborative patient care. Working together to create CPCAs inspired practitioners and created opportunities for expansive learning and to gain collective transformative agency.

(based on Meijer et al., 2020)

Box 1: The CPCA process: empirical context

METHOD

Here we explain how essential (theoretical) advantages of the Change-Lab might be realised within (studies of) other change processes. This could inform practitioners interested in learning from change processes in the field as well as researchers interested in studying change processes. As stated above, Change-Lab is an interventionist approach (Engeström, 2011). Therefore, advocating for exploration of this approach without researchers who intervene might be considered an oxymoron. We hope to convince readers that awareness of the Change-Lab lens is beneficial even when studying learning and change processes without researcher-initiated interventions. Through reading and discussing in our research group, we further explored the Change-Lab lens to gain a better understanding of how to use this theoretical background in our health care studies.

Below, we first briefly describe the key concepts of the Change-Lab approach and CPCA change process. We then compare two aspects of this process with the Change-Lab: the role of the researcher(s) and of mirror data. To conclude, we reflect on what we learned and provide suggestions to consider when using the Change-Lab lens for implementing change processes.

Our proposed solution, underpinned by literature, is supported with 'on the ground' practical experience and knowledge of the authors about the CPCA process in the Netherlands. Loes Meijer has been involved in the development of a national methodology for developing regional collaboration agreements and has participated as medical coordinator in several CPCA processes. The CPCA change process takes place among different healthcare professionals (frequently general practitioners and medical specialists) who provide joint patient care and collaborate at the regional level while embedded in different organizations. These organizations are mainly primary care practices and hospitals.

KEY CONCEPTS OF CHANGE-LAB

During the Change-Lab, cyclical processes of change help bring about expansive learning in several steps, starting with questioning the current situation, modelling a new solution, and moving through to consolidating the new process. The theoretical foundation of each step in this cycle of the Change-Lab is essential for understanding why Change-Lab is different from other change interventions, and how the most critical outcome of a Change-Lab, transformative agency, (Engeström *et al.*, 2020) is supported and realised. Transformative agency is an evolving capacity of the collective to seek new possibilities for taking initiatives toward change. It goes beyond traits of individual participants and is essential for their lifelong continuing development (Haapasaari *et al.,* 2016).

The expansive learning that is assumed to occur in a Change-Lab is associated with two key ideas: (1) from the abstract to the concrete and (2) double stimulation. Alternating from the abstract to the concrete means that there is both a focus on developing theoretical insights at a conceptual level as well as on increasing the participants' transformative agency and objective material changes (Engeström *et al.,* 2020). This move is put into motion when practitioners become aware of contradictions (Engeström, 2020). A contradiction is, for example, when a healthcare arrangement which has been designed for care within one organisation and organised around a specific disease appears not to be suitable for patients with multiple diseases who are treated in different care organisations (Engeström and Pyörälä, 2020).

Double stimulation is closely intertwined with the move from abstract to concrete; the first stimulus is becoming aware of a contradiction and developing the motivation to improve the contradictory tensions, while the second stimulus is an external tool, for example, a video recording of a patients' story, that works as an auxiliary to bring about action. Tools derived from or directly relevant to their practice are called mirror data (Engeström and Pyörälä, 2020), which support the participants in their innovative ideas on how they could develop change processes. In addition, the tools help make tensions visible, and support thought experiments on how to solve those tensions. These reflections and discussions are cyclic: concepts, developed in the first round of discussion to be further refined in the next. Each cycle starts with analysing the present and how it came about, followed by developing and visualising models of what new practices might look like. In each cycle, over time, different levels of contradictions and tensions occur; by solving these contradictions and tensions together, participants learn expansively and develop collective knowledge and agency, the so- called transformative agency for further change processes.

RESEARCHER (INTERVENTIONIST) ROLE

In a Change-Lab, university researchers co-construct and co-produce knowledge with the practitioners and other stakeholders (Virkkunen & Newnham, 2013). Characteristically, these researchers are not merely passive and objective observers, as might be customary in more conventional research; they are active contributors to the process of change. Change-Lab-researchers have diverse roles in the process, from designers, participants, managers and analysts (Engeström *et al.,* 2003, pp. 105-118). One of the researchers' roles (Table 1) is to gather the mirror data during the whole process, choose which new elements to administer as a first or second stimulus during the meetings with the participants, and prepare in advance generic templates for models to be co-developed during sessions (Engeström *et al.,* 2003). These researchers are scaffolding the discussion with the intention of assisting the other participants to talk about and deal with challenges within and between organizations.

1. Organizer, supervisor of the collective work 2. Chair of the discussion 3. Documenter during and after sessions 4. Collector of mirror data (also with interviews) and strategic arranger of this data at various sessions 5. Conductor of the expansive learning process, e.g., clarifying issues that are unfamiliar to existing practices 6. Process analyst and subsequent author of research publications

Table 1: Roles of the researcher-interventionist in the Change Laboratory process (based on Virkkunen and Newhham, 2013)

Another important researcher role is to ask about assumptions from an outside perspective. They do not share the same (organisational) blind spots that the participants may have. In addition, the researcher cultivates 'multi-voicedness,' in which opposing and different perspectives between and within participants are made explicit to make room for contradictions and structural tensions (Skipper *et al.,* 2021).
In the CPCA development process, it is usually a medical coordinator rather than a researcher who organises and supervises the collective work. The coordinator fulfils the first four roles in Table 1. In (co)facilitating the discussion, the coordinator ensures that decisions and recommendations are written down and thus, in an implicit manner, they document the development of the shared model for future collaboration envisioned by the healthcare professionals. On reaching the fourth role, the overlap becomes less convincing. Within the CPCA development process, bringing in an outside perspective and questioning assumptions is a mechanism that can also occur because the coordinator is not working in the same hospital or GP practices as the participants and may therefore share fewer of the participants' institutional blind spots. A coordinator from the same discipline as some of the participants, however, may still retain some of the assumptions embedded in that discipline that a researcher in a Change-Lab would not take for granted. When this role is not explicit, the coordinator may not be consciously challenging preconceptions (his or her own and others') and exhibiting a high degree of reflexivity. To a limited extent, the coordinator may reach out to those outside of the group of CPCA participants when different input or perspectives are required for sustainable development, and thus safeguard multi-voicedness. The final two roles of a researcher interventionist, (Table 1) are not part of the medical coordinator role. We advocate that a medical coordinator with knowledge of the expansive learning process and a more conscious positioning as someone who brings a valuable outside view could contribute to the learning during the CPCA development process.

MIRROR DATA

One of the first steps in the Change-Lab process is the collection of mirror data (Skipper et al., 2021). Mirror data are ethnographic data collected in the workplace (Sannino et al., 2016). They are useful for researcher-interventionists themselves in order to become acquainted with the actual work practice and the tensions involved but are primarily shown to the practitioners to prompt discussion amongst participants. The purpose of mirror data is to trigger and support collaborative analysis and to cultivate innovative ways to comprehend and collectively carry out their work (Ivaldi and Scaratti, 2020). Mirror data synchronously reflect the present (troublesome aspects of participants' activity), the past (disturbances and challenges of the collaborative work practices), and the future (models under collective construction). During the change process, step-by-step new solutions are developed into plans for new models of activity; mirror data are again collected and discussed, to further interrogate the newly formed activity and consider its (future) feasibility.

Mirror data can be formal documents, such as external reviews and evaluations, or materials such as customer feedback and statistics; it could also be video recordings of working processes or transcriptions of interviews with different practitioners (Skipper et al., 2021). Within the healthcare domain, examples of mirror data include individual patient case notes, new guidelines, or an analysis of multiple electronic health records demonstrating intraprofessional collaboration between primary and secondary care. Anything considered by practitioners to be new or problematic could be suitable (Engeström, 2018). An example is given in one quotation in Table 2. Mirror data do not always appear in the form of material objects; a mirror to support discussion about collective action could also take the form of observation of each other's practice, with discussion of these observations, (Morris *et al.*, 2020) making tacit knowledge about the work explicit (Rydenfält *et al.,* 2012).

A physician assistant tells about the need to switch off an implantable cardioverter defibrillator (ICD) at the end of life: "*It really comes down to the fact that you rarely have to do anything with a pacemaker in patients at the end of life. But for patients with an implantable cardioverter defibrillator (ICD), you have to do something.* *An ICD has to be deactivated in time, if possible, so that it can be done on an outpatient basis. Ideally, we want to do this on an outpatient basis, but in an emergency, a technician can come to the patient's home, or a GP can put a magnet on an ICD, and as long as the magnet is on the ICD, it will not shock."*

Table 2: Illustrative quotation of mirror data of a physician assistant

Consideration of the mirror data unearths disturbances and problems in the participants' collective actions, with the intention being to create an emotional confrontation for those who experience tensions with their professional values to do the best for their patients. Emotions are considered necessary in Change-Labs. They facilitate participants' reflection on their collective actions and encourage their involvement in the change process (Engeström, 2018; 2020). It inspires motivation for change and willingness to learn. Collaborative interpretation and meaning making is realized as a result of the two-way dialogue between an emic (participant insider) and etic (researcher outsider) perspective (Nuttall, 2020). Finally, visualisations of the models of a new practice or other conceptual tools can also perform a mirror data role (Engeström *et al.,* 2003), because visualisation encourages collective reflection (Rydenfält *et al.*, 2012). A similar observation to that of the researcher's role can be made for mirror data and how these occur in the CPCA development process. Whilst in the CPCA process, mirror data are collected before the meetings and discussed during the meetings, this data are not truly considered to be a 'mirror' because the analytical view of an outsider, contributing elements that are not familiar to existing practices and making contradictions explicit, is missing. The medical coordinator collects information about, for example, the challenges to collaboration or new methods for diagnosis, as well as existing documents such as clinical guidelines of the national organisations, CPCAs, and CPCAs developed in other regions. These materials may act as mirror data (present) for participants. During the first meeting, the coordinator asks the questions brought forward during the preliminary phases and the participants have the opportunity to reflect on each other's work processes and how the collaborative activity had grown historically (past). They bring their perspectives which work as mirror data, but no observations were performed beforehand in practice and reflections on those observations are absent. Practitioners outside the group of participants provide information on working with the newly formed activity during the implementation process of the new model. This might become mirror data in the future.

The mechanism for bringing a variety of different perspectives into the CPCA change process is materially present through the national guidelines and previous editions of regional guidelines, but is not always deployed in existing CPCA processes. These material

representations provide an opportunity for critical benchmarking (Virkkunen & Newnham, 2013). Discussion around these materials may help to promote a shared understanding. Likewise, the discussion on guidelines of different medical disciplines may invoke emotions because they lead to conversations about specific, challenging patient cases or unearth power differences between various disciplines; again, this is not always fully exploited due to lack of knowledge about Change-Lab opportunities among medical coordinator and participating professionals. Finally, if Change-Lab principles were used, the CPCA would overtly visualise the overall process as a method to support expansive learning, whilst at present, participants discuss different text-based CPCA versions. As researchers, we advocate for the training of medical coordinators and participating professionals in the principles of Change-Lab and its tools. This could enhance joint opportunities to optimise these Change-Lab processes, fostering expansive learning and increasing the transformative agency of all.

REFLECTION

Above, we have described key problems in existing change intervention approaches in healthcare settings, recognising that the solution of a more theoretically grounded formative intervention, Change-Lab, with a researcher-interventionist, is often not achievable or practical. To circumvent the challenges associated with Change-Lab as a solution for better change processes, we propose a focus on its theoretical concepts and advocate for utilising those concepts when designing change interventions, as well as training medical coordinators as health professionals in basic Change-Lab tools. Our argument is founded upon our reflection on more empirical work around this existing CPCA change process, where we used the lens from the Change-Lab approach. In our interviews study, the CPCA processes participants developed capabilities in what could be called an ‘onset of transformative agency’ (Meijer et al., 2020). Moreover, their medical knowledge and understanding about others’ capabilities and working with different patients from different organisations increased. In what ways has this comparison provided useful lessons for us, as ‘researchers from the outside’ who study the CPCA change process? Practically, as researchers, it helped us in the design and performance of studying the CPCA change process. Fundamentally, it brought to the fore areas for improvement in the design of CPCA change processes by uncovering potential for learning during change.

Professionals involved in change efforts should reflect on the following overview of what the Change-Lab lens enables:

1. Become sensitised to the learning necessary for change processes to have a sustained and sustainable impact. Through looking at the participants’ final agreements as an outcome of expansive learning, a model for a new way of working can be co-constructed.
2. Look at materials collected in the change process as mirror data. Mirror data are the material representation of the problems in the field; therefore, it is useful to explore this mirror data and study (for example, through discourse analysis) how participants talk about and act on these mirror data and learn as a result.
3. Promote guidelines for coordinators of change processes with respect to their skills in alternating between the concrete and the abstract and for timely provision of tools and mirror data as stimuli for learning. Coordinators need to remain aware of the importance of taking an outsider perspective to make contradictions explicit and valued.
4. Suggest recommendations for future change processes, based on what is missing in the present design of change process that a knowledge of Change-Lab literature can unveil. An example of this is visualisation. Knowledge of the value of visualisation described in the Change-Lab literature could make tacit knowledge explicit and serve as a facilitator for reflection.

5. Train coordinators and those involved in change processes with the basic tools of Change-lab, to use tools to reflect on during the process of change and make the change process more deliberate, which can contribute to transformative agency in the future.

CONCLUSION

Change is constant. As such, there is an understandable desire to implement change interventions that seek to combine learning and change whilst not being perceived as top-down by participants. While Change-Lab offers a potential solution for these problems, its practical challenges and resource intensive nature may lead it to be dismissed. We argue that lessons learned from a comparison between Change-Lab and another change process brings benefit because it elucidates what in the design of the change process is already expected to support expansive learning and what might be adjusted to heighten the chances of this happening. Similarly, findings from our single case study where we observe a CPCA process of four meetings (Meijer, 2023) show that it is necessary to explore how to ensure these differences do not undermine the expansive learning. Critical consideration of Change-Lab permits practitioners and researchers to dare to achieve sustainability in their endeavours, where the change carried out by professionals employed in the healthcare system may remain viable longer than with embedded, but temporary, researchers (Haapasaari and Kerosuo, 2015). The take-home message for educational researchers is that these theories are practical even when a complete Change-Lab intervention may not be fully achievable. Even though our study example is located within a healthcare context, in our rapidly changing world, an increasing need for people in workplaces to share knowledge and learn together to adapt ways of working make it relevant in other professions and working contexts.

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MULTIFACETED CONNECTIONS BETWEEN THEORY AND PRACTICE THROUGH A DIDACTICAL LENS – UNIVERSITY CONTINUING EDUCATION'S POTENTIAL TO IMPACT THE WORLD

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ABSTRACT

One distinctive feature of university continuing education (UCE) is its intermediate position between theory and practice. This is concomitant with the necessity (didactical) to address these two distinct perspectives. This article presents a model of didactical actions in UCE that serves as a systematic description of such actions. The model helps to illustrate the actors and their manifold actions that are aimed at interconnecting theory and practice on multiple levels within and outside higher education institutions. It also makes it possible to discern the interconnectedness between didactical actions on different levels. By considering theory and practice as two equal perspectives, both needed for learning and for generating new knowledge, the model also allows insight into the multi-directed and mutually impacting relations between theory and practice. Based on this, this article bolsters new forms of knowledge production that acknowledge alternative places and forms of knowledge production outside universities. Similarly, the paper emphasises learning processes that involve places and logics from both theory and practice. The article contributes to the field of didactics of UCE in both a theoretical and practical regard and contributes to recognising UCE's potential to exert an impact within and outside higher education.

INTRODUCTION

The number of students enrolling in tertiary education is still on the rise and is grounded on demographic changes, new requirements of the labour market, and the academisation of professional qualifications among others (European Union, 2023). This rise in student population requires universities to increase their relevance for and impact on society. With regard to education, this is accompanied by a stronger interconnection of theory and practice which has become more important within the last decades. While at the same time there persist reservations against practice-orientation as something unacademic, several developments in the university sector are proof of an increased practice-orientation, such as the emergence of universities of applied sciences, dual study programmes, cooperative universities, university work-integrated learning and university work-based learning including higher and degree apprenticeships (Lave and Wenger, 1991; Billett, 2002b; Cooper, Orrell and Bowden, 2010; Baethge and Wolter, 2015; Graf, 2016; Wall, 2017; Wallin, Nokelainen and Mikkonen, 2019; Bravenboer, 2021). Akin to such forms of work-based higher education, university continuing education (UCE), as a specific part of university education, needs to

join traditional academia with situated and socially constructed knowledge from applied contexts. University continuing education has the additional task, however, of addressing theory-practice distinctions in a specific way, as learners already have prior academic and practical knowledge. These learners seek not just work preparedness, but also the opportunity to reflect and theorise upon their practical knowledge and experiences. This is why UCE, in particular, is regarded as occupying an intermediate position between theory and practice (e.g., Christmann, 2006; Walber and Jütte, 2015; Baumhauer, 2017; Schäffter, 2017; Cendon, Schulte and Mörth, 2021).

This paper, based on the author's doctoral thesis (Mörth, 2023), sets out from understanding didactical dealing with theory practice distinctions as a distinctive feature of UCE and from understanding theory and practice as two distinctive yet interdependent equal perspectives. Based on this, this paper brings to light didactical actions that address theory-practice differences with the help of a multi-level model of didactical actions. The multi-level model of didactical actions has a two-fold purpose. For one, it serves as a heuristic tool or analytical grid for identifying respective didactical actions in the author's previous theoretical and empiric research on theory-practice interlinking in UCE in Germany. For another, the model in its elaborated form is a result of the analysis, in that it systematically describes relevant actions and its actors on the respective levels. In contrast to the author's previous work, which presented a set of categories intended to serve as an analytical tool for developing and evaluating work-integrating HE programmes (Dadze-Arthur and Mörth, 2021), the paper at hand goes beyond in that it highlights actors and their didactical actions inside universities beyond the study programme itself *and* outside higher education institutions.

THEORETICAL PERSPECTIVES ON THEORY PRACTICE RELATIONS

The paper originates from a heterarchical understanding of theory and practice, as is evident in a Marxist philosophy of practice (Sánchez Vázquez, 1977), to which a number of theory strands refer, such as the Social Practice Theory of Lave and Wenger (Lave and Wenger, 1991) or various Practice Theory approaches (Schäfer, 2016). From this understanding, theory and practice are seen as two mutually dependent kinds of human activity. They are distinguishable yet equally important perspectives, shaped by their respective logics of knowledge and action, and form two parts of a whole. Accordingly, from a methodological point of view, theory can be grounded in practice; from a professional-theoretical point of view, new knowledge can emerge through reflecting, researching practitioners.

Given the importance of both theory and practice for learning processes, several learning theories employ the theory practice distinction and put learners' experiences from practical (professional) activities at the centre of learning. Three of these approaches shall be outlined below to illustrate the meaning of connecting theory and practice by considering learners' practical experiences within higher education learning processes. The approaches are relevant for the paper because they describe processual, interactive, and complex connections between action, experience, learning, knowledge production and changing the world.

The first approach, *Reflective* and *Experiential learning* (Dewey, 1916; Schön, 1983; Barnett, 1992; Cendon, 2020), sees theory and practice, respectively knowing, and acting in a processual correlation. While experience as origin of thinking is composed of acting and enduring the consequences of this acting, reflective experience is considered as intentionally reflecting upon the connection of acting and its consequence(s). Knowledge is seen as a result of thinking/reflection, which can become meaningful only when it is used in the context of experiences. This approach therefore argues that learning, i.e., educational processes, need to include acting and experiences and not theory alone. *Situated learning* (Lave and Wenger, 1991; Wenger, 1998, 2010), as a second approach, sees experience and

understanding as mutually constitutive and puts the emphasis on social and processual aspects of learning. Learning is understood as an integral part of every action and thus as a situated activity in which persons and their identities develop through a process of increasing participation in the world, and where structures and communities change through processes of negotiation about meanings. A third approach, *Workplace* and *Work-based learning*, emphasises the situatedness of learning in (professional) practice, the engagement with practice through research and reflection, the emergence of knowledge from within practice and the alteration of practice contexts as a consequence (Billett, 2002a, 2004, 2015; Boud and Solomon, 2001; Lester and Costley, 2010; Costley and Dikerdem, 2011; Boud and Rooney, 2015; Helyer, 2015).

Considering such an understanding of theory and practice as both equally relevant for (higher) learning, the analysis systematically tries to identify didactical actions that relate theory and practice for the purpose of learning processes. The underlying concept of didactical actions refers to a concept from the 1970s and means more than simply teaching (Flechsig, 1975; Flechsig and Haller, 1975). Didactical actions in this understanding comprise all systematic decisions and actions from teachers and other relevant actors that have an influence on processes of teaching and learning. “In general, didactical actions (...) are about analysing, designing, and implementing individual, collective, and institutional processes and structures that are geared towards influencing learning and teaching as well as knowledge transfer and the acquisition of knowledge” (Flechsig, 1989, p. 5, translated by author). The subsequent section presents the analytical approach that aims to identify the respective didactical actions as well as the analysis’ data corpus.

RESEARCH APPROACH AND DATA CORPUS

The basis for the analysis presented in this paper is the author’s previous research on theory practice connections within UCE (Mörth and Schiller, 2017; Mörth and Cendon, 2019; Mörth, 2020, 2022; Mörth, Cendon and Klages, 2020)[1]. These previous research projects narrow down theory-practice interconnections within UCE from different starting points and were based on different research approaches and data that are outlined as follows:

- A grounded theory study (Strauss and Corbin, 1990; Glaser and Strauss, 1967) that indicates how university teachers gear their teaching strategies towards UCE students’ comprehensive experiences and knowledge. The study was based on interviews with seven university teachers with vast experience in teaching within UCE in the German-speaking context as well as in the Netherlands and in North-America (Cendon, Mörth and Schiller, 2016), and an in-depth analysis of the interviews focusing on how the interviewed teachers view their adult, experienced students (Mörth and Schiller, 2017).
- A document-based case analysis (Eisenhardt, 1989) that systematically describes teachers’ teaching and learning activities that address the theory-practice interconnection. The analysis followed an action research approach (Fox, Martin and Green, 2007) of nine UCE study programmes in conjunction with an in-depth analysis of three of those cases, including interviews with one student, one teacher and the programme director of each programme (Mörth *et al.*, 2018; Mörth and Cendon, 2019).
- A participative research project that developed criteria for a German version of university work-based learning. The study was based on an action research process (Fox, Martin and Green, 2007) with persons responsible for UCE at four higher

[1] Most of the research focused on programmes that stem from projects that were subsidised within a big national funding competition. https://www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2011/03/625_bekanntmachung.html

education institutions and a pilot study including thirteen UCE study programmes and a literature review (Mörth, Cendon and Klages, 2020; Mörth, Klages and Cendon, 2020).
- An in-depth case analysis that carves out the potential of practitioner research for a multidirectional knowledge transfer. The paper was based on one of the cases from the study on work-based learning criteria (Mörth, Klages and Cendon, 2020), supplemented with an abductive analysis (Kelle and Kluge, 2010) of qualitative interviews about meanings and understandings of theory and practice with one teacher and the person responsible for designing the study programme (Mörth, 2022).
- An analysis of quality management in UCE in Germany that describes quality criteria relevant for theory practice interconnections and deduces quality dimensions. The results were based on an analysis of quality measures in UCE study programmes as part of an action research process with persons responsible for quality measures in UCE and a document analysis of the published documents and papers from their institutions, in addition to a literature-based analysis of relevant guidelines, recommendations and concepts for UCE and quality management specific for UCE (Mörth and Pellert, 2015; Mörth, 2020).

The research results of these studies were analysed for the purpose of identifying didactical actions geared towards theory practice interconnection. To that end, the author developed a theory-based multi-layered model of didactical actions for UCE. This model is based on existing models of didactical actions from various educational areas: didactics in general (Flechsig and Haller, 1975), didactics of UCE (Jütte, 2015), didactics of higher education (Flechsig, 1975), and didactics of continuing education (Flechsig, 1989; Schrader, 2011). All these models are predicated on a broad understanding of didactical actions as decisions and actions pointed towards teaching and learning processes. The models try to systematically describe and illustrate relevant actions and their actors. By comparing these existing models, the author arrived at a version that included levels relevant for UCE in particular. While the author's model served as an analytical grid for analysing the research results in order to highlight actors and their didactical actions that relate theory and practice in UCE, the analytical process served to elaborate and validate the model at the same time. Analysing the research results with this analytical grid confirmed the assumed levels and revealed a wealth of didactical actions and a variety of relevant actors, as outlined in the elaborated version of the model that follows.

A MODEL OF DIDACTICAL ACTIONS IN UCE

Didactical actions on multiple layers

The model of didactical actions in UCE considers levels outside the university (indicated within squares in the figure below) and the university itself (as indicated within the circles). Inside of the university comprises personal and reflective actions on the *subjective level* and levels that focus teaching and learning, that is, the *level of teaching/learning situations* and the *level of courses,* framed by the *level of UCE study programmes* and the *level of organisation.* Outside the university are the *levels of organisational environment*, *national policy*, and *supranational policy*. The following figure illustrates the levels and the identified actors. This is followed by descriptions of the levels with their respective didactical actions.

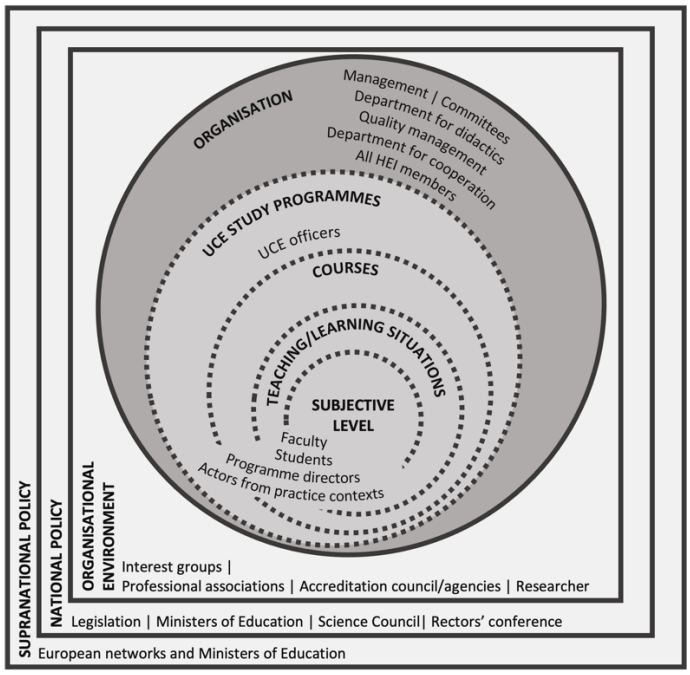

Figure 1: The multi-layered model of didactical actions with its actors

The **subjective level** comprises those didactical actions that refer to the self and to moments of self-reflection. With students and teachers as central actors, this level revolves around establishing a practice-research ethos among students and teachers. This also includes being challenged about self-concepts and basic attitudes. *Students* as practitioner researchers need to reflect on their experiences, their roles in the workplace and their professional self-concepts as part of the research process that includes acting and the possibility of taking on new roles within their practice contexts. *Teachers* are also challenged regarding their self-concepts when they are no longer exclusively and solely experts, but facilitators of research processes and learners themselves. Both groups of actors need to reflect on their self-concepts due to their multiple affiliations, especially those of practice and academia.

The **teaching/learning situations level** refers to processes of teaching, learning, and researching. Central actors on this level include actors from the higher education institution as well as those from practice contexts. *Teachers* (with their practical experience) integrate students' practice experiences into their teaching strategies and put reflection at the centre of learning activities that are geared towards connecting theory and practice. This includes research projects that take practice (problems) as a starting point and that are student-led. *Students* are central actors as they steer the research process and co-create learning processes. *Students' colleagues at the workplace* and *fellow students* are entangled in students' reflection processes and *practice coordinators* from the higher education institutions and *company supervisors* accompany students before, during and after their (research) activities within the practice context.

The **courses level** refers to the planning and implementing of courses. At this level, *teachers* are central actors in implementing competency-based teaching, a respective didactical model, and practice-relevant forms of assessment. They design the interplay between theory input and research activities as part of students' research projects. In these projects, *students* are central actors in that they generate the research question. Employer organisations or other *practice institutions* are also central, as they provide the setting for implementation of those projects. On this level, actors from practice contexts and teachers

are also planning and implementing teaching-learning activities at the university or at work/in the practice context.

The **level of UCE study programmes** concerns the designing of study programmes with *programme managers*, *teachers*, *students*, *students' employers* and *other companies/organisations* as central actors. The central didactical action is establishing basic cornerstones that are crucial for the design of practice-related programmes geared towards the needs of practice, or more generally, the world of work, and even more broadly, society. This includes establishing formats that are flexible in terms of time, place, and content, accreditation of prior knowledge for access and for credit transfer, learner-centredness, an adequate didactical model, practice-relevant examinations, teachers with practical experience and cooperation with companies/organisations. It also includes the consideration of the competence needs of specific fields or target groups, creating individualised study programmes based on single students' competence needs and the possibility for students to select components of the study programme according to individual learning needs (modularisation, electives, specialisation, etc.). This level also refers to integrating practice into the curriculum by means of defining practice activities as a relevant part of students' workload, designing the curriculum starting from practice problems, setting a relevant study job as an entrance requirement, creating possibilities for learning at work and organising cooperative arrangements that are prerequisites for integrating practice into the curriculum (e.g., for practitioner research).

The **organisational level** refers to those didactical actions that concern the framework conditions, regulations, structures and processes prerequisite for carrying out didactical actions at the levels of the study programmes and beyond. The central actors are university management, university committees and departments, and persons responsible for the implementation of corresponding structures and processes. In addition, all members of the higher education institution are relevant, because individual members of an organisation always play a central role in the institutionalisation of (new) rules and norms (e.g., Lowndes and Roberts, 2013). The didactical actions include establishing practice as a place for learning and implementing corresponding processes and structures, as well as related supportive processes. They also include the definition of new requirements for teachers with regard to their (practical) experience and of their new tasks and roles associated with the consideration of practice, as well as involving teachers from practice and creating opportunities for exchange and reflection for teachers. One aspect of utmost importance is establishing basic assumptions that are prerequisites for the other actions. This includes the significance of practice as a fundamental part of theory and a relevant place for learning, as well as a central starting point of learning processes. Equally crucial are the equivalence of knowledge with different origins, theory as a form of practice, complexity of practice and students as co-producers of learning processes, knowledge and quality.

The **level of organisational environment** refers to such organisations from the environment of higher educational institutions (HEIs) whose actions relate to UCE and its theory-practice relationship but have indirect influence only. Actors include the *bodies responsible for the accreditation* of programmes and institutions, *interest groups*, which shape discourse in the field and create opportunities for exchange between universities and companies, *researchers* who develop concepts for quality management and *professional associations* such as associations for UCE, who draft recommendations directed at higher education institutions but also at politics. In the data, those recommendations revolve around quality (assurance) of university continuing education, for example, and refer to the need to consider competences acquired outside of higher education, flexible study programmes, teachers from practice (DGWF, 2005, 2013) or to the necessary systematisation of UCE study programmes to better communicate them within the fields of practice (DGWF, 2010, 2018). Finally, *companies* and *representatives of practice* are central actors on the level of organisational environment. Their didactical actions are described on the respective levels.

The **national policy level** includes legislation, accreditation rules, recommendations from educational policy stakeholders and grant funding. Ideally, didactical actions on the national educational policy level are connected to actions on the supranational policy level and translated into national regulations. *Legislature* is a central actor when creating conditions by defining if and how references to practice are possible and creating (financial) incentives for the implementation of certain specifications. Other specific German actors are the *Standing Conference of the Ministers of Education and Cultural Affairs of the Länder* (Kultusministerkonferenz), which formulates (so far rather unspecific) regulations on accreditation for UCE study programmes, the *German Science and Humanities Council* (Wissenschaftsrat) an advisory body for formulating education policy recommendations to politicians and the *German Rectors' Conference* (Hochschulrektorenkonferenz), the representative body of public HEIs. Their didactical actions refer to laying down rules and making recommendations with regard to curricular, content-related and structural aspects of considering professional experience and practice needs within UCE.

The **level of supranational policy** refers to European educational policy recommendations regarding flexible learning paths or the accreditation of prior learning experiences, e.g., the Standards and Guidelines for Quality Assurance in the European Higher Education Area (*Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)*, 2015) written by *European network structures* and adopted by the *European Ministers of Education*. Such European guidelines, which can only serve national specifics to a rather limited extent, make it clear how crucial the interplay of didactical actions is across the levels. Didactical actions with reference to theory-practice connections that are addressed on this level include recommendations about student-centredness, competence orientation, flexible learning paths and the recognition of competences acquired outside higher education, among others.

Interconnections of didactical actions across levels

Considering the didactical actions across the model allows us to see and draw connections between specific didactical actions on various levels. For example, students' practical experiences as content-related and structural requirements on the study programme level refer to including learners' practical experiences in teaching on the level of teaching/learning situations. This, again, connects to establishing the workplace in formal structures as entrance requirements or as specific parts of the curriculum on the study programmes level and, on the organisation level, to establishing a general mindset that understands work as central to the learning process. At risk of such connections sounding trivial, it allows us to emphasise the interconnectedness and the necessity of actively connecting and co-ordinating the various didactical actions across the different levels. Such a dialogical connecting across levels or between actors on different levels has been described as a task of communication and coordination (Flechsig, 1975) that could be taken on by responsible persons for UCE. Such a "bidirectional translation service" (Kondratjuk, 2017, p. 11, translated by author) would be directed both towards the actors in the field of practice and actors in the higher education sector on the various levels. Coordinating didactical actions across levels is crucial for successfully relating theory and practice within UCE programmes.

Interconnections of theory and practice: relations with mutual impact

Looking more closely at the interconnections between HEIs and the practice context reveals that the relation between HEIs and companies/other organisations is characterised by mutual impact.

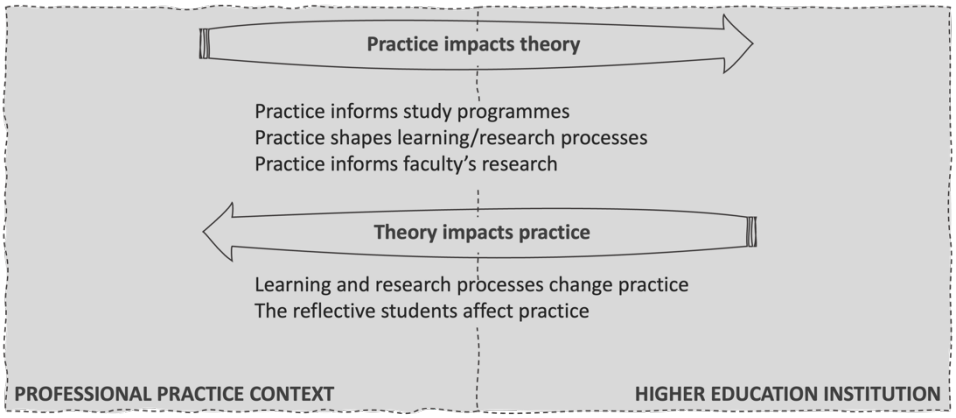

Figure 2: The mutual impact of theory practice relations

Practice informs study programmes and research and shapes learning and research processes. Representatives from the level of organisational environment – more specifically, from professional practice – take on an active role in UCE programmes in that they co-create UCE study programmes and shape learning and research processes. By doing this, they impact study programmes and UCE – its places for learning, its learning and research processes and its content – as follows. On the *level of study programmes*, stakeholders from practice are involved in planning and developing UCE study programmes: new programmes that will answer the needs of practice or individualised study programmes that will fulfil individual students' learning and competence needs. On this level, practice representatives are also involved by providing the professional practice context (work) as a framework and a context for conducting practice research projects and as a place for learning. On the *level of courses*, students' employer organisations or other practice institutions come into view as places where (practice research) projects are actually being carried out. They are also relevant actors in planning and implementing teaching-learning activities at work as a place for learning. On the *level of teaching/learning situations,* company supervisors accompany the students before/after/at their activities in practice, and colleagues from the workplace can be relevant actors as counterparts in processes of reflection. In this way, the practice context influences students' learning processes, which can be seen as part of theory. Moreover, students – here as representatives from practice – can inform faculty's (future) research in that they share their problems, research questions, experiences and current activities from their practice contexts, i.e., the latest industry standards.

Conversely, UCE can impact practice through research and learning activities in the practice context and through reflective students with their enhanced knowledge and professional self-conceptions. On the *level of teaching and learning activities,* students involve supervisors and colleagues in their learning and research processes and by doing so, influence the practice context. The fact that students, here as theory representatives, impact practice becomes most apparent if we focus on practitioner research: Conducting a practitioner research project can impact the organisation in two regards: (1) With regard to the actual changes that might be implemented through a project and (2) with regard to the indirect changes that might be triggered by involving other members of the organisation in the research process. The other aspect that influences practice is the reflective students themselves. In UCE programmes students are presented with many opportunities for

reflection and must challenge their (professional) self-concepts, which presumably shapes their future actions and the practice context as a consequence thereof.

As these examples show, the mutual impact between practice and university context can offer a fruitful opportunity for shared learning when theory and practice are seen as two equal kinds of knowledge that together can achieve more than one logic alone (Schäffter, 2017).

DISCUSSION. BLURRED BOUNDARIES, MULTIPLE AFFILIATIONS, CHALLENGED BELIEFS AND DEBATABLE CERTAINTIES

Placing the results within a broader context allows us to discuss them with respect to questioning existing knowledge hierarchies, to bolstering new forms of knowledge production, to expanding the definition of teachers' roles and to realising a relationship between theory and practice that can be seen as mutually enriching.

Relating theory and practice as two equal perspectives challenges prevailing beliefs about knowledge hierarchies, particularly academia's dominance over practice. Seeing practice as immanent to and necessary for learning challenges practice-distant attitudes that still often prevail within academia, especially in Germany with its strictly segregated educational fields. But this also applies to other countries, where research universities rank higher than HEIs for applied sciences, for example. An approach that sees both theory and practice as requirements for learning and generating new knowledge – as is the case when students generate new knowledge as practitioner researchers – refers to knowledge production in mode 2 (Gibbons *et al.*, 1994), where the production of valid/accepted knowledge takes place in hybrid contexts outside universities, and beyond disciplinary boundaries. The findings reinforce debates that advocate new forms of joint, de-structured, trans-disciplinary knowledge production processes and the associated (necessary) changes in basic assumptions and beliefs (Gibbons *et al.*, 1994; Lester and Costley, 2010; Haraway, 2016; Schäffter, 2017; Seitter, 2017). Thus, they can contribute to strengthening new, heterarchical understandings of theory and practice and new forms of knowledge production that might be needed to answer today's pressing issues.

As concerns didactics, the findings corroborate debates on shifting demands on teachers (Christmann, 2006; Cendon, 2016; Seitter, 2017). They refer to the necessity of adapting university teachers' roles from lecturing to moderating and supporting learning and research processes. This also refers to the need for teachers to have practice knowledge and/or experience as well as the need that faculty does not consist of academics only but includes teachers from practice. Boundaries become blurred when teachers do not unambiguously belong to academia: They are academics with practice experience or practitioners that are teaching at university. Likewise, students do not unambiguously belong neither to academia nor to practice: They are seen as practice experts within the university context and at the same time as academics within their practice field. If both students and teachers are characterised by their multiple memberships (Wenger, 2010), if both sides (teachers and students, HEIs and practice contexts) learn from each other (Ten Berge and Lam, 2023), and if legitimate knowledge can be created by practitioners/ in practice contexts (Gibbons *et al.*, 1994), certain certainties and dichotomies, until now perceived as unalterable and without origin, become blurred and questionable. This paves the way for a new epistemology of practice (e.g. Schön, 1983; Raelin, 2007; Costley, Abukari and Little, 2010) and for changed and mutually enriching relations between theory and practice.

Given that more and more regular students are working while studying – some in the area of their study programme – and that professional students attend undergraduate studies for the purpose of further training, another boundary blurs, as well: That between undergraduate studies and continuing education study programmes. This suggests the possibility of

transferring processes tested in UCE to the undergraduate sector (Cendon, Schulte and Mörth, 2021) and could strengthen the role of UCE within universities and beyond.

The limitations inherent in this study include the limited reach of the model; due to the specific sample of data, most of it stems from projects subsidised within a large, national funding competition. Although the more optimal conditions due to funding may distort the results, it could also be said that this allowed for the generation of maximum performance and thus showed what may be possible and was, therefore, an ideal research sample. Future research projects could include testing the presented model and results on a broader basis and thereby eventually considering influences from other systems (Schrader, 2011) – influences that are not directed at UCE but still do or may have an impact. The latter would allow UCE to recognise relevant stakeholders not yet apparent, actively engage with them and thus proactively contribute to bettering framework conditions or to proactively influencing such impact that has not yet been addressed. Another future research project could be a much longed-for neo-institutional analysis of higher education on a micro level (Cai and Mehari, 2015) or a neo-institutional analysis of the emergence of UCE as a new field, similar to Graf's work on the formation of dual study programmes (Graf, 2016). The latter could reveal the reasons and delays involved in making UCE a bigger and more relevant player in higher education and thus potentially increase its future impact.

CONCLUSION. UCE AS A CONJOINING INTERFACE THAT ENABLES MUTUAL LEARNING IN MULTIPLE PLACES

This paper introduced a model that describes didactical actions that address relating theory and practice in UCE on different levels of action. The model systematically describes didactical actions processing theory practice distinctions within *and* outside higher education institutions. In addition, the model highlights both the interactivity between actions on different levels and the interconnectedness between academia and the world of work.

The findings can be regarded as a theoretical contribution to the field of didactics of UCE but may also be of interest for the practice field. Practitioners could align their didactical actions concerning theory practice interconnections more systematically or in coordination with actions on other levels while also factoring in the actions from other stakeholders in order to reach their targets more successfully. Considering the relevance of the different levels and actors might also help establish UCE systematically and more broadly within higher education institutions.

The model also carves out the mutual positive impact of theory and practice. Implementing UCE study programmes reveals this impact in several regards, such as changes in practice induced by research projects and the students/reflective practitioners themselves or changes at the higher education institution induced by input from and collaboration with practice. Based on this, UCE enables manifold impact directed at the world of work/society and at higher education institutions. Acknowledging the mutual contributions of universities and the practice to knowledge production might help respond to the challenges society is facing today. Such a relevant role of UCE in knowledge production inside and outside universities might bolster the position of UCE as relevant part of higher education.

University continuing education and the processing of theory practice distinctions can be viewed in a hybrid space (Bhabha, 1994), where both perspectives can be related to a new one (Cramer and Schneider, 2020; Walber and Meyer, 2020; Klages and Mörth, 2023). From this position, with work consistently being a part of UCE study programmes, UCE can act as a hub that connects various actors in complex learning situations. This relates to new forms of knowledge production and to new forms of communication and collaboration as part of a learning process on both sides (teachers and students / university and practice). In this way,

new connections emerge with the world of work. With all these opportunities and chances, UCE can contribute to new ways of university teaching and learning, to new ways of producing knowledge, to changing the world (of work) and to addressing society's most pressing current issues.

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THE POTENTIAL OF 'DIDACTIC MIXING' IN LIFELONG LEARNING

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ABSTRACT

In the expansion of Lifelong Learning (LLL) at Higher Education Institutes (HEIs), we suggest that our task, as teachers, is to develop democratic, experiential, emancipatory and imaginative initiatives. In line with this aim, this paper suggests an approach to lifelong learning in which students and practitioners learn *from* and *with* each other. Key to our argument is that this 'didactic mixing' occurs at three levels: 1) the *mixing of practitioners and students* from different backgrounds, 2) the *mixing of different ways of knowing*, in particular, combining scientific and professional expertise with experiential knowledge, and 3) the *mixing of different settings* both on and off campus. Drawing on our experiences, we present teacher reflections on two courses that we organized in parallel in the winter of 2022: i.) Techniques of Futuring, in which master's students and societal practitioners engaged with the contentious issue of the future of the rural Netherlands, and ii) the Coalition of Hope, in which master's students and societal practitioners reflected on their personal and emotional experiences in engaging with societal change for sustainable futures. In reflecting on our design choices, we conclude that mixing in participants, ways of knowing, and settings allows teachers to craft their courses to their pedagogical foundations by continuously asking *with whom*, *how*, and *where* and *why* one learns. Furthermore, we propose that no single 'mix' counts as unambiguous best practice, but rather hope that this paper inspires teachers and others in the LLL community to reflect and act upon the setup of the learning experience and explore the agency they could have in didactic mixing.

INTRODUCTION

Under the umbrella of LLL, higher education institutes are expanding their programs, pedagogies, and institutional configurations to facilitate the education of professional learners. Notwithstanding the merits of these efforts, we care to stress, in line with

longstanding criticisms (e.g., Biesta, 2006), the importance of avoiding a too instrumental, labour-market-driven approach to LLL. Accordingly, we suggest that the task upon us as educators is to develop a rich tapestry of democratic, experiential, emancipatory and imaginative educational initiatives.

In this paper, we will share and reflect upon two courses that were driven by this task. Although there was significant interaction between the two courses and their teachers, the design of their didactic set-ups differed greatly. Hence, in support of educators who might share our ambition, we introduce the idea of 'didactic mixing,' which we realized was one of our key practices as teachers. We subdivide didactic mixing into three dimensions: (1) mixing of *participants,* for instance, in backgrounds and age groups, (2) mixing of *ways of knowing,* for instance, cognitive and experiential knowing and combining designer and expert knowledge, and (3) mixing of *settings,* making explicit readaptations of dramaturgies, reconfiguring, for instance, well-known settings like classrooms, theatres, and exhibitions.

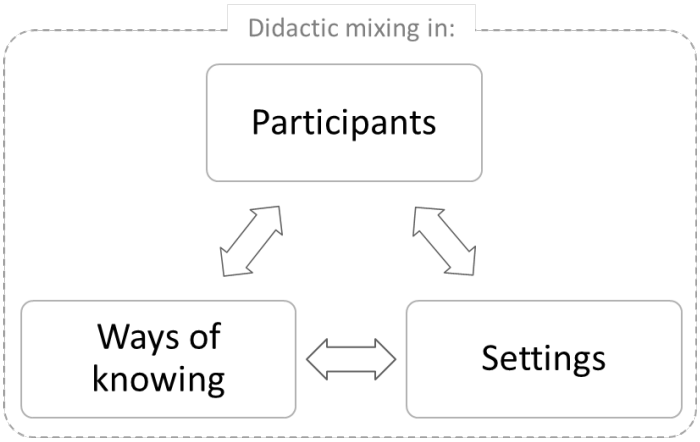

Figure 1: Schematic representation of Didactic Mixing: a process of mixing in participants, ways of knowing and settings

The three dimensions of didactic mixing are grounded in different literatures. To start, didactic mixing as a practice can lead to learning opportunities if a mix of participants, settings or ways of knowing creates a 'boundary' for the learner: a space or moment of sociocultural discontinuity in action or interaction for the learner, which can incite learning processes of reflection, identification, cooperation or transformation (Akkerman and Bakker, 2011). For example, a sociocultural discontinuity can arise when you invite a student into an unfamiliar space outside the university, or, when you bring them in touch with participants who work or think in very different ways. The mixing of participants, in particular, can lead to participant compositions of inter- or transdisciplinarity, which can be suitable in the emerging strand of transdisciplinary education that engages with wicked problems (e.g., Bernstein, 2015). Second, to intend to mix *various ways of knowing* is part of the same transdisciplinary strand, but can also be regarded as part of the search for a holistic learning theory (Taylor, 1998), one that welcomes – at the very least – affect into learning, but might also involve the search for 'whole-person-learning' (Yorks and Kasl, 2002). This concept of 'whole-person-learning' draws from, for instance, Heron's theory (1992) that emphasizes an interdependence of experiential, presentational, propositional and practical ways of knowing. Lastly, mixing in settings in education finds useful parallels with research that emphasizes the dramaturgical dimension of politics and education: what matters is not only what is being said, but also in what context (e.g., Hajer, 2009). For the purposes of the current study, this implies a need for careful attention to shaping the setting of education, ranging from an excursion to a traditional classroom setting to carefully connecting the sequence of staged events a learning journey is comprised of (Hajer and Pelzer, 2018; cf. Dewey, 1938).

The purpose of this paper is to illustrate our practice of didactic mixing, and to explore how this approach might offer help for other teachers to design education, both before and while teaching courses. Whereas this paper is written for an audience in the LLL community, it can also be useful for other teachers in, for instance, education for sustainable development. The remainder of this paper consists of a description of (i) our research approach, followed by (ii) a course description and teacher reflection on each course. We end the paper (iii) with a discussion of the two courses and a reflection on the potential future of 'didactic mixing' in LLL.

RESEARCH APPROACH

Research and empirical context

Both courses discussed in this paper were initiated by the Urban Futures Studio, a transdisciplinary research group at Utrecht University (the Netherlands), which focuses on enabling alternative sustainable and democratic futures. The first course, Techniques of Futuring (ToF), was developed in 2015 (Hoffman et al., 2021) and coined the idea of a 'mixed classroom' for a setup in which master's students and practitioners learn from and with one another. Each year, the course focuses on 'futuring' – the collective active engagement with the future (Hoffman et al., 2021) in light of a thorny issue in Dutch policymaking, which is identified in dialogue with national policymakers. The course tries to create an alternative dramaturgy for engaging with these issues in a generative and imaginative way (Hajer and Pelzer, 2018), which usually culminates in an immersive public event. To this end, it connects scientific and professional expertise with experiential and designerly ways of knowing. Over the years, the teachers have collaborated with theatre makers, designers and others to make this possible – for example, by creating and hosting a 'museum of the future' (Hoffman et al., 2021).

The mixed classroom course format was granted an educational innovation award that funded the Academy of Hope action research project, which explores novel pedagogical avenues for the universities' engagement with the planetary crisis. The second course, the Coalition of Hope (CoH), is a new course initiated by the Academy of Hope in 2022. The course builds on the lessons of ToF, but the teachers deliberately chose to start from a diverging pedagogical foundation, the results of which we will detail below.

Action research and reflective practice

The two courses became a part of the work of the Academy of Hope research project, which is set up as action research (Herr & Anderson, 2005; Lewin, 1946). More specifically, our methods draw inspiration from Schön's work on reflective practice: we see our task as teachers as continuous 'conversations with the situation' (Schön, 1983, 1992). We regard the two courses in this paper as two parallel 'action' phases in our action research cycles, after and during which we gathered data and reflected. This informs our future steps and enhances our understanding of our educational practice.

We gathered the following data on our courses: (i) we analysed and collected participants' individual reflection assignments, group reflection sessions and the formal course evaluation forms; (ii) we collected our observations and insights on informal conversations during the courses, documented in the notes of the lead author; (iii) the teachers in the CoH and a student-assistant conducted autoethnographic journaling; (iv) the lead author conducted formal interviews with all teachers involved at the start of the courses, and recorded the teacher-reflection sessions of both courses.

Both during and after the courses, we held meetings to reflect on the courses, plan next steps, and develop abstractions. During one of the ex-post reflective sessions, we identified the three levels of didactic mixing that we used in designing the courses. To further explore this conception and to get a deeper understanding of a teacher's ability to work with didactic mixing, we chose to focus in this paper on the teacher's perspective. We do so by writing up joint teacher reflections on the didactic mixing that took place in each course.

COURSE 1: TECHNIQUES OF FUTURING

Course description

From November '22 to January '23, the participants of the ToF course explored how utopian thinking (e.g., Sargent, 1994; Levitas, 2013) may help overcome the political deadlocks around the future of the Dutch countryside. The participants included 16 master's students from different disciplines and 26 societal practitioners, including policymakers, activists, artists and farmers. Participants were selected to create a diverse group of backgrounds, and through their motivation letters we checked for their willingness to learn and general interest in the topic. For master's students, this is an elective course, and any student at the Utrecht University can apply. For practitioners, this course is open to anyone interested. Most practitioners were attracted by the topic of 'rural utopias,' and/or our creative approaches to futuring. Importantly, half of the practitioners were civil servants from Dutch governmental ministries, since the ToF course has a longstanding relationship with these ministries. The costs for their participation varied per sector and ability to pay.

In five 'mixed' meetings, students and practitioners brainstormed together and attended guest lectures. There, they learned about the political deadlock, imagining alternatives, and the power of dramaturgical interventions. In addition, the students engaged in fourteen separate sessions where they co-created a final event. This event welcomed around 100 visitors into an immersive experience staged in 2027 in the community centre of a fictional village in the rural Netherlands (see figure 2). Through this event, the students and the practitioners of the course explored how engagement with the future can be organized in an affective, imaginative, and engaging way. The participants quickly initiated a reunion after the event, which was staged as a visit to the ecological farm of one of the practitioners and was used to reflect on the experiences during the course.

Figure 2: Participants of the Techniques of Futuring course at their final event: 'Rural Utopias'.

Teacher reflections

In this 7th edition of the ToF course, we tinkered with the didactic mixes. With the help of two theatre makers, we aimed to take the theatre aspect to a new level with respect to previous editions, working towards a comprehensive immersive theatrical experience. Furthermore, this year we tried to advance the level of co-creation of the final event between the teaching faculty and the participants. Through combining utopian thinking with participatory and immersive theatre, we tried to 're-relate' the expertise brought in by guest speakers, allowing for an experiential reflection on the issues the practitioners struggle with.

After the event brought the creative process to an end, a few things stood out for us. The final event was highly appreciated for its immersive and participatory dramaturgy, as well as its clearly co-creative character. Students indicated that they had appreciated the theatre workshops, because they allowed them to work with their body and their emotions. This, despite them feeling uneasy doing so at the start of the course. Because the theatre workshops included only the students, the practitioners were less introduced to theatre. This may explain why some practitioners participating in the final event felt too far out of their comfort zone.

Upon reflection, we realised that this year, the process was less successful in incorporating scientific expertise than it was in staging an engaging dramaturgy. The extensive work to prepare the event came at the cost of a deep engagement with the content of alternative images of a rural future. The guest lectures were intended to offer input for this content, and although these lectures were valuable, they were hosted in a plenary setting, which left insufficient space for participants to connect the lectures to their work on the final event. In other words, one of our biggest challenges for this course was to try to craft an appropriate balance between the role of expertise and the immersive and co-creative approach leading up to the final event.

This challenge relates to our reflection on the mixing of participants, with whom we intended to create a collective experience. Participants noted how easy and valuable it was to meet one another and repeatedly indicated a wish for more interaction. However, due to the limited time we estimated we could ask from the practitioners (policymakers and farmers, in particular), we only had five co-creative sessions with all participants present. This was a limiting factor to the creation of a collective experience in the group. Therefore, despite many notable contributions of practitioners who were able to make extra time, the shared experiment to create an immersive theatrical experience became mostly the master's students' project. Consequently, we noticed that the practitioners did not feel as immersed in the collective learning experience as the students. Our course design created a sense of collectively, but time constraints required a differentiation of roles and thus of learning opportunities.

Mixing also occurred at the level of settings. This involved the locations we visited. For instance, we hosted sessions outside of the university campus: in theatres, on farms, and in spaces in the city centres of Utrecht and The Hague. We also tinkered with the setting on a micro-level. Rather than in rows of tables, the participants were seated in half circles or world café tables, and we experimented with interview-style formats to substitute potentially long lectures. We noticed that the novelty of these settings worked to keep students and participants engaged. This novelty might also explain why the sessions didn't always feel like a university course anymore. For instance, practitioners regularly indicated they kept forgetting that this experience still counted as a course for the students, and that they would get graded for it. Despite these merits, we must also admit that constantly tinkering with the setting required a lot of time and energy from the teachers.

In hindsight, a full-blown theatrical production was perhaps too much to ask, both of ourselves and of our participants. We and most of the master's students indicated that we had never worked as hard on a course as we did on this one. Despite its intensity, the course created a sense of fulfilment and meaning. We experienced ourselves as part of a collective force with our students, learning and making change together. Furthermore, we found that diverse forms of 'mixing' in creating a space for different engagements with the future helped to foster reflection on positions, roles, relationships and the more ephemeral 'sense of possibility.'

Didactic mixing	Design choices	Values and risks
Mixing participants	> Transdisciplinary group of co-learners; > a collective intervention: co-creation of a final event.	+ 'Out of bubble' effect; + sense of collective learning and meaningful effort; - unequal time availabilities disrupt a sense of collectivity and differentiate the learning processes; - a collective intervention can take more time than reasonable of participants and teachers for a 'course'.
Mixing ways of knowing	> Combining theatre-making with cognitive learning; > theatre makers as co-teachers.	+ Enrichment of the learning; - the risk of detachment far beyond the comfort zone; - complex search for a balance in ways of knowing.
Mixing settings	> Moving outside the university; > setting half circles, world café, etc.	+ Attentive and active energy; + enables learning outside of the university; - Requires a lot of work

Table 1 Didactic mixing in the Techniques of Futuring course

COURSE 2: COALITION OF HOPE

Course description

The year 2022 also marked the first edition of the CoH. Compared to the ToF course, this was a more informally organized, co-creative educational experiment. We welcomed a group of six interdisciplinary master's students. These students all applied to join the CoH in the second year of their master's program, the goal being to write their theses around an overarching theme: 'the post-fossil good life.' As part of this experience, from November '22 to February '23 (parallel to ToF), the students connected with four societal practitioners of diverse backgrounds. These practitioners were personally interested in exploring the notion of the post-fossil good life. Participation was free for practitioners. While this experiment has different dimensions, including the journey of writing the master's thesis, it is this mixed part of the CoH experiment that we focus on here.

In total, we had four 3-hour sessions, a 2.5-day retreat, an evaluation session and a reunion. During those gatherings, we embarked on something we framed as an 'emergent futuring experiment.' This collective process was emergent in the sense that it was facilitated without a predefined outcome in mind and with ample space for co-creating sessions (on emergent teaching, see for instance Crowell and Reid-Marr, 2013). We collaboratively explored our ideas of what a future post-fossil good life might look like, what we experience when we engage with these objectives, and how this might inspire us to move forward. Finally, we

explored what our creative potential as a group might be. This process led us to create the 'tenfliction tree,' a format of interaction where people might learn to see and experience that at times, the quest for 'living well' – especially in a world in crisis – is one full of paradoxes, contradictions and tension — hence the name 'tenfliction.' For instance, the ecological crisis simultaneously asks us to radically slow down our growth-oriented lifestyles and to speed up our efforts to create pathways for urgently needed systemic change. The art of mindful and responsible future-making, as the CoH came to suggest, is to become aware of such tensions and embrace and play with them in ways that create energy, rather than to be paralyzed by their complexity. For more information, we refer to the blog post written on this experience (Coalition of Hope, 2023).

Figure 3 – Participants in the Coalition of Hope test their 'tenfliction tree' interactive format.

Teacher reflections

In this phase of the CoH, we sought to connect master's students to professionals. Furthermore, in creating our mix of participants, we took care to select a group of people who might come to feel a sense of resonance with one another. To strive for such resonance, we informed our selection process and began our collective journey with an informal one-on-one walk between the potential participants and the main teacher, which emphasized getting to know each other, talking about commitments and interests regarding the question of the post-fossil good life, and creating a shared sense of what the CoH might become (which was, at first, rather vague!). This approach resulted in a small (six students, four practitioners) yet diverse group. Participants were involved in, amongst others: activism, regenerative farming, sustainable finance, teaching/facilitation and research.

We assumed that this approach might result in a small yet highly motivated group that was ready to engage deeply, be vulnerable and open, and embark on a journey together. We indeed experienced this to be the case. This we considered crucial, for the ways of knowing we wanted to foreground in the CoH emphasised personal experience, open dialogue, and co-creation. One example of these kind of interactions is that we started off the coalition with a visit to a 'museum of our collective wisdom,' exhibiting personal contributions of the participants in the form of texts on futures they dream of and recordings and artifacts of their inspirations. This was the opening move in the process of bringing personal life experiences into a creative, communal exploration. As the facilitators of this process, our core concern was to listen for differences, similarities, and tensions in the group and look for ways to

explicate and explore them. We hoped that after building on a collective consciousness of the coalition (meaning: a shared understanding and perspective on the topic), we'd have a fruitful departure point to then collectively formulate a corresponding creative potential of the group. That consciousness and potential revolved around our experiences of 'tenflictions.'

Given the emergent and self-reflective way in which this focus came about, participants truly felt that this understanding of the world was 'our accomplishment,' and overall, group members reported the understanding of 'tenflictions' as valuable and relevant for their lives. When we stayed in an ecovillage for a 3-day retreat, we distilled our collective consciousness and formulated our collective creative potential. At this point, the way of knowing and the setting of the CoH shifted. Rather than focusing on reflecting within the group, we started to make creative props for establishing reciprocal relationships with particular communities, aiming to contribute to those communities by manifesting the realisations we experienced together. We developed a conversation method through which ecovillage inhabitants explored and made sense of the tenflictions in their community (see figure 3), which led to animated conversations and, as they told us afterward, was strongly appreciated. Furthermore, we designed and staged 'the tenfliction tree' as a contribution to the final event of the ToF course.

The value we see in the CoH process, as alluded to in the above text and summarised in Table 2 below, does come with risks. The risk of 'the bubble' refers to when the emphasis on self-exploration and deep dialogue leads to a strong group identity but a simultaneous disconnect from wider society. It was not until we were far along in the process that we actually interacted with 'the wider world' and were able to articulate our contributions. We do not see an easy way to overcome this – it comes with an emphasis on group consciousness and emergence – and we feel this is something to be aware of when designing education with these intentions. The somewhat similar risk of navel-gazing – something we'd signal as a potential pitfall – refers to when we focus so strongly on our own experiences and thoughts that we fail to be transformed by other minds and knowledge. We noticed that we needed significant time to make sense of the rich experiences of all coalition members, yet, in the later stages of the coalition, we started engaging with other communities (the ecovillage and the visitors of the ToF event) to enrich our understanding. The risk of 'inactivity', lastly, refers to when the open character of the learning process and the emphasis on consciousness and purpose can drastically slow down or even prevent active collaboration with societal partners. After the CoH ended, multiple participants mentioned that it was when we created and hosted two evenings in the ecovillage that the CoH really came alive. Some experienced the sessions leading up to that point as somewhat too slow and repetitive. It seems the core challenge of this kind of didactic mix is to seek a fine balance between building a shared consciousness within the group and creatively engaging with society.

Didactic mixing	**Design choices**	**Values and risks:**
Mixing participants	> Mixing based on resonance.	+ Personal connection and commitment, group identity - the risk of 'the bubble'.
Mixing ways of knowing	> Fostering collective consciousness and creative potential.	+ The empowering nature of creating open spaces for sharing personal experiences, ideas, and emotions; - the risk of navel-gazing.
Mixing settings	> From intimate 'own spaces' to experimental participation in 'the spaces of others.'	+ Reciprocal and purpose-driven societal engagement; - the risk of 'inactivity'.

Table 2 Didactic mixing in the Coalition of Hope course

DIDACTIC MIXING FOR THE FUTURE: AN INVITATION

This study started with the ambition to contribute to the design and facilitation of emancipatory, democratic, and imaginative educational initiatives, by illustrating and exploring our practice of 'didactic mixing' through reflecting on our teacher experiences in two courses. In this closing section, we would first like to discuss what didactic mixing entailed and yielded in our courses, to then share how we perceive didactic mixing as an active practice and articulate why we think it is valuable. Lastly, we would like to invite like-minded teachers to consider didactic mixing for their work.

Looking back on the teachers' reflections and the didactic mixes of these courses, we found that each of the three identified dimensions of didactic mixing had its own unique and valuable contribution to the quality of our educational processes. We learned that mixing participants allowed us to incite the formation of a new social fabric, in the form of 'a coalition' (CoH) and a 'creative collective' (ToF). In both cases, the newly formed ties enhanced a sense of connectedness beyond the participants' 'bubbles' and supported collective learning and action processes. The mixing of ways of knowing can be connected to another quality, namely that some students found this course to feel 'more real than others.' For instance, when ToF had finished, students indicated to us that the courses they pursued afterwards felt 'just bland' to them. Finally, through mixing in settings, we were able to encourage a fitting pace, energy, and direction of attention in the courses. These positive experiences were not easily achieved, however. In both courses, our biggest challenge was to find the right balance in the mixing, and it was difficult to ensure these efforts didn't cost teachers and participants too much time or energy.

When comparing the reflections and didactic mixes of the CoH and ToF courses, we also tried to pinpoint why these courses ended up being so different from one another. Overall, we found that the aim of the educational intervention, or in other words, the pedagogical foundation, largely drives the choices we made in the didactic mixes. For instance, the ToF course focused strongly on co-creating a final event to make a change in the world 'out there.' Correspondingly, its aim was to enable learning through active and direct engagement with a societal issue. The CoH course focused on exploring the group members' personal experiences and sought to co-create a fitting creative potential for the group. As such, it supported participants in finding their purpose and direction as contributors to a changing world. The resulting didactic mixes (see Table 1 and Table 2) reflect how these different and sometimes contrasting pedagogical convictions came to be expressed in the didactic mix. For instance, ToF facilitated a fast-paced energy to make a big event happen and sought an 'outward' focus with farm visits, guest lecturers, and theatre experiences. In contrast, the first phase of the CoH focused on slowing down to listen and tune in to the group carefully. Here, we preferred an 'inward' looking attention, set in a living room-like environment. Thus, our didactic mixes illuminated how our courses were taught by different teachers who have different approaches and ideas about learning and change-making.

CONCLUSION

Our experiences lead us to conclude that the 'work' of didactic mixing is an active and reflective process throughout the design and facilitation of education, requiring ongoing 'tinkering.' Didactic mixing meant that we were continuously questioning *with whom*, *how*, and *where* one best learns. Furthermore, in dealing with these questions, we kept asking *why* one is learning in the broader societal context: with what purpose does this course take place? This conclusion also suggests limits to the capacity to plan and design the kind of innovative educational practices studied here. Of course, retrospectively we can try to articulate our aims, questions, and approaches. But we cannot claim that these were explicit

from the outset. They rather formed 'hunches' (cf. Swilling and Van Breda, 2019) we explored as the courses unfolded. Thus, didactic mixing is perhaps best seen as an attempt to articulate a process of manoeuvring, a process that requires the craft and artistry of the teacher (Biesta, 2022). This important role of teachers is not self-evident. The two experiences discussed in this paper suggest that such work of teachers can especially thrive if teachers have the resources, time, and trust to experiment with didactic mixing.

Furthermore, we can conclude that the practice of didactic mixing in the education of participants, ways of knowing, and settings opens up a breadth of design choices. To suit our pedagogical convictions, this breadth in design options led us to deviate from the routines of university-based education, such as the entrenched separation between LLL and initial education, or the idea that education is about mastering a dedicated corpus of scientific knowledge. Therefore, the practice of didactic mixing might enable teachers to consider more critically engaging with educational conventions, and, where necessary, deviate from them if they don't suit the desired learning goals. This opens up space to (re-)design learning and education to fit the emancipatory, democratic, experiential and imaginative processes our current societies need.

We see this paper as an invitation for other teachers to consider didactic mixing in their educational practice and would like to welcome others to share and document their experiences. The approach of this paper can be considered in line with what Gergen (2015) calls future forming research. As Gergen (*ibid,* p.294) wonders: 'What if we [researchers] replaced the persistent rush to establish 'what is the case?' and begin to ask, 'what kind of world could we build'?'. The two exemplars we discussed should therefore not be interpreted as ideal mixes from which we can derive generic lessons for lifelong learning practitioners, but rather as exemplars that might inspire teachers in other contexts. We hope to inspire teachers who share a commitment to a type of LLL that engages with the grand challenges of our time and sees its learners as citizens, rather than consumers.

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THE IPEAR APPROACH: COMBINING PEER LEARNING AND AUGMENTED REALITY IN EDUCATION

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ABSTRACT

The European Strategic Partnership iPEAR[1] has explored the opportunities that arise for education when motivating and engaging students by combining the pedagogy of peer learning with the visual technology of Augmented Reality (iPEAR approach). iPEAR case studies seek to prove the efficacy of this approach that can be applied in all fields of education, from primary school to higher education and continuing education. Cases have been collected from the most diverse subject areas, illustrating widespread applicability of the iPEAR approach.

INTRODUCTION

The technology of Augmented Reality (AR) is quite commonly used in subjects like surgery, architecture, engineering and in the gaming industry. In other subject areas, however, this technology is barely used. In Europe-wide case studies (universities and higher educational institutions from Greece, Norway and Germany have taken part in this study. These institutions were part of the European Strategic Partnership iPEAR), proof was sought for AR's use in educational settings of any kind, i.e., in creative and philosophical subjects as well as in social science, in formal as well as in informal learning and supporting university lifelong learning and (ULLL) and university continuing education (UCE). In order to facilitate the accessibility of AR for a range of educators, some segments of these case studies worked with easily accessible mobile AR tools and WebAR.

The existing research focusses either on the phenomenon of peer learning or the supporting character of AR, mostly on individual learning results. High-end AR is perceived even more so as a means for individual learning (only a minority of studies deals with AR as a means of collaborative working and these studies concentrate on STEM (Affendy 2019)). This perception has been slowly changing, however. Recent studies show that the technology of AR is more inclusive when used in collaborative learning settings, meaning that all kinds of

[1] iPEAR is the acronym for "Inclusive Peer Learning with Augmented Reality" and stands for a European Strategic Partnership that was co-funded by the European Commission in 2020-2023 (2020-1-DE01-KA203-005733).

learners can successfully take part in the learning.[2] Our study adds to this change of perception. It combines AR with the pedagogy of peer learning – what we call the iPEAR approach. It shows that AR can serve collaborative learning.

CONTEXT

The iPEAR approach is a pedagogy based on visual learning with peers, used extensively in continuing education and lifelong learning (LLL) environments. Peer-to-peer (P2P) instructions originated with Eric Mazur (Mazur, 1997) when he proved that students are more motivated and engaged when they learn with their classmates and consequently learn better. Moreover, their perception of the course positively changes and enhances awareness about learning outcomes. Another study (Zhang, Ding, and Mazur, 2017) analysed pre-post matched gains in the epistemological views of science students taking the introductory physics course at Beijing Normal University (BNU) in China. The study also looked at gender differences in student learning attitudes. Gender results revealed that female science majors in the PI classes achieved a more remarkable positive shift in attitudes and beliefs after instruction than male students.

Peer instruction is a much needed and yet not sufficiently widespread pedagogy when it comes to the needs of modern university instruction. It focusses on the social dimension of higher learning and active citizenship, and it is suitable to the inclusion of marginalized groups of adult learners (Royo *et al.,* 2021). Peer learning encourages sharing human experiences and knowledge between students, puts the students' knowledge at the centre of the discussion and values their contribution, and students feel more receptive to real cases and information when it comes from peers. This approach is therefore very relevant in UCE, where contribution from experienced individuals is a key factor to enriching the work done in the classroom. This effect is even more pronounced when combined with visual ways of teaching.

In the context of our study, AR serves as a means of visual learning. The art of visual teaching describes the nonlinear, tangential ways our thinking moves (Sousanis, 2015). The iPEAR pedagogy considers three critical variables: the philosophy of Heutagogy (Self-direction and self-efficacy), inclusive praxis as democratic participation in LLL, social learning theories (P2P approach), visual media literacy and the artistic element of developing an instructional design that addresses the technology-enhanced learning perspective (Figure 1).

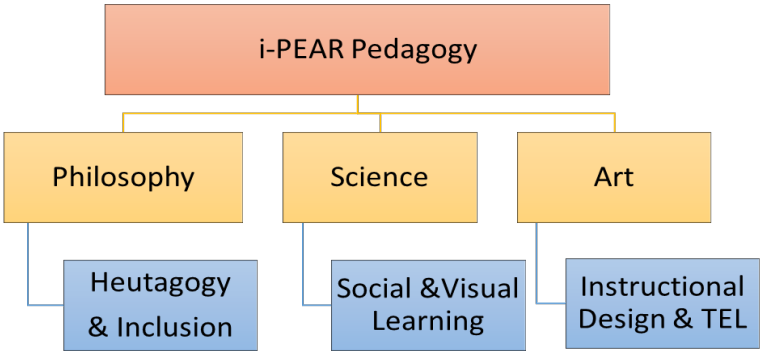

Figure 1: General categories of the iPEAR pedagogy

[2] Recent studies from Harvard add evidence to this. See Radu 2023 and further works cited under https://pubmed.ncbi.nlm.nih.gov/35500084/

iPEAR CASE STUDIES

To prepare educators for their role in the iPEAR case studies[3], they were thoroughly briefed by the iPEAR consortium. They were equipped with the iPEAR toolkit (Terzopoulos,2023) introducing them to AR mobile applications suitable for educational purposes. They were also briefed to use AR in a peer learning setting. All other parameters were up to them:

- the learning situation (seminar or other)
- the technical equipment needed to realize the concept
- BYOD or not
- how many students taking part
- offer an AR experience to students, or let students prepare an AR experience as a meaningful part of the course
- how to prepare the students for the task
- how to lead students through the task

Some cases were performed with HoloLens, a head mounted device, whereas most educators made use of mobile applications. The tools used in the cases are introduced in the iPEAR Toolkit.

	Subject	Case / method	Didactic goal	AR Tool
1	Christian archaeology	Treasure hunt with ready-made AR	Gain knowledge on monuments	Sketchfab AR
2	Media science	Students develop AR experience	Create a practical e-learning module	Metaverse
3	Education	Explore AR tools and present experience	Develop skills in technology enhanced teaching	ARTutor4
4	Sports	Use AR training app	Train basketball techniques	HomeCourt
5	Physiology	Use AR app	Get information on the structure of rat brain	Nevrolens for HoloLens2
6	Animation and interactive media	Students develop AR experience	Create AR animation for elementary school kids	JigSpace
7	Animation and interactive media	Teacher develops augmented clickable buttons	Trigger discussion on ecological issues	V-Director
8	Fine arts and new media	Students develop AR experience	produce interactive AR installation for spectator to interact and affect the installation using the forces of nature (gravity, wind, etc.)	UniteAR
9	Graphic design	Students develop AR experience	Tell a mixed reality story for a short product advertisement	3dBear Vidinoti AR
10	Graphic design	Teacher develops augmented QR codes	Incorporate information on the new course project and how to conduct it	3dBear Vidinoti AR

Table 1: List of cases and subjects realised in iPEAR 2021-2022[4]

[3] iPEAR Cases were collected between April 2021 and July 2022.

[4] For more details on the single cases see Maloszek 2023 and Themeli 2023. Apart from the ten cases presented in table 1, another 11 cases were produced that are not documented here as educators did not take part in the systematic analysis, but their students nonetheless answered the survey questions.

At the end of the semester, educators took part in a semi-structured interview about the setting of their case study, its content, the approach they chose and the outcomes. Students were asked to answer some questions in an online survey. As a result, half of the educators (apart from the HMD case) let students bring their own device (BYOD). Some chose to present AR that students had to make use of. Others chose to let students prepare their own AR experience (see table 1).

ANALYSIS OF CASE STUDIES

The overarching research question for the analysis of the iPEAR case studies was a pedagogical one: Does the iPEAR approach improve students' (and continuing education learners in particular) motivation, engagement and autonomy and how? This study does not focus on the question of whether educators feel prepared for this kind of teaching, although this question is an important part of the picture when thinking about ULLL and UCE. Therefore, the results of the iPEAR project might be useful for educators throughout Europe, enabling them to take steps for their own further professional learning. To find out about the improvement of learners' motivation, engagement, and autonomy thanks to the iPEAR approach, the educators' and students' answers were analysed in a mixed methods approach (Creswell, 2009), sampling the interviews from the 21 higher education educators from Greece, Germany and Norway that participated in the case studies, and of their students who responded to the online survey.

In their responses, educators explored students' motivation, engagement, and autonomy in working with their peers (with or without the intervention of an educator). More categories emerged from the data, including inclusion, creativity, group dynamics and visualisation. Finally, they were asked to comment on how the iPEAR instructional design could be improved or used more effectively.

Overall, the educators' feedback on iPEAR was positive and served the learning objectives. Informants claimed that AR-selected tools provided the students with new ways of creating and interacting with the natural world and experiences that would not be possible in a completely real or virtual world. While AR, as a creativity channel, promoted explorative learning and problem-solving, creativity was considered a form of literacy in the iPEAR experiment. An educator of graphic design (9) concludes: "After the procedure, [students] felt like explorers, who are part of the same expedition. […] AR apps helped students understand new creative paths." An educator in the field of fine arts (6) commented: "[…] the AR experience helped students understand the main topic in a creative way and express their thoughts at the end (peer learning)."

Educators maintained that the iPEAR design functioned as a motivational force because of the social interaction, excitement of working with innovative tools, social responsibility for learning and visual and immediate feedback as a rewarding process. Students liked working with their friends and classmates more than listening to a lecture in class or online, tried harder and were proud of their visual content. Depending on the composition of the group, the peer-to-peer relationship was sometimes more democratic, while in another case, a mentor led the teamwork. The decision about roles was based on the group dynamics and the students' personalities, and the responsibilities could be adjusted over time.

Of course, the most creative instructional design of the activity reinforces the rewards for students. Rewards could be grades, the assessment of the task by peers (respect from peers), or the enjoyment of producing visual content with classmates and building digital skills with innovative tools such as AR. As the educator of archaeology (1) noted: “As soon as you do group work, you're the heroine. Therefore, there has always been a great commitment, if they were able to do something together. And the AR tools promote that, I

think, because it always has something playful and something futuristic." Even underperforming students were engaged and worked collaboratively. Mutual learning was a catalyst for integrating students without mobile phones and without much sophistication in new technologies. The guidance from fellow students helped them to participate and learn.

Teachers claimed that the students broadened their visual language boundaries through peer learning and new technologies. As an informant of graphic design (10) put it: "The team is happy with the learning results, as […] the learning experience was like a treasure hunt game." The educator using HMD in the field of physiology (5) uttered: "It was very apparent that the students were very enthusiastic at the end; they said that this was a great way of teaching; it was very interactive and allowed them to actively explore and discuss among them."

When technical issues like weak Wi-Fi coverage, compatibility issues, or lack of mobile devices, hindered students' performance, there was a potential reluctance to share and experiment. Some educators managed to solve these issues creatively with inclusive praxis. They urged their students to share devices, ideas and roles within the peer groups so that all members could contribute. Generally, educators claimed that AR tools must improve to avoid battery or data overuse, be user-friendly, create more 3D models (images and domain-specific resources, programming courses, music etc.) and provide more possibilities for collaboration.

The student respondents were graduate and undergraduate students from various national backgrounds and disciplines. The convenience sample included students from Germany, Norway and Greece from medicine, archaeology, graphic design and media studies, to name a few (other subjects represented in the study were sport science, education, photography and fine arts). The survey included 16 informants from Germany, 17 from Norway, and 181 from Greece (214 in total).

Students were asked to answer four questions on a Likert scale 1-5 (strongly agree – strongly disagree). These questions, designed to be evaluated quantitatively, were each supplemented by an open Why-question that delivered additional qualitative information on students' impressions and thoughts.

1) Did you like the peer learning approach (working with and teaching your classmates)? Why?

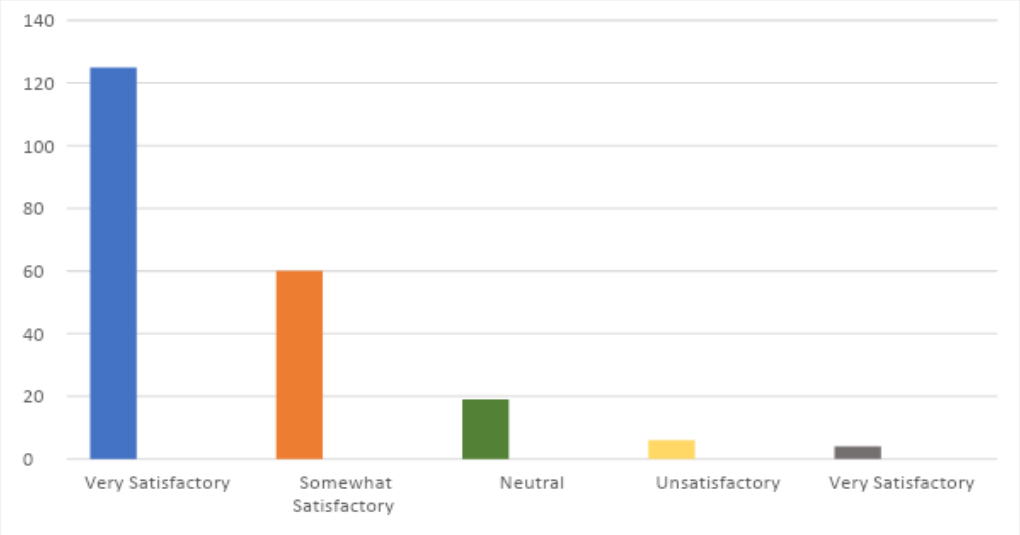

Figure 2: Students' responses to question 1 on Likert scale 1-5 in total.

The distribution of answers to question 1 shows that most students appreciated the iPEAR perspective of learning while teaching one another (185/214). Only a minority was neutral or found it unsatisfactory or very unsatisfactory (19/10). The illustrated answer to 'Why?' positively commented that the method was engaging, motivational, creative and innovative, teaching them new digital and cooperation skills. On the negative side, technical issues such as compatibility, digital divide, and internet connection affected the efficiency of the iPEAR task. Along the same lines, cognitive overload (tiredness and headaches, poor collaboration, hesitation in trying new technology and educators' preparedness) affected the learning outcome of the peer-learning with AR tools.

2) Were you more interested in teaching each other and sharing content with your peers and AR tools? Why?

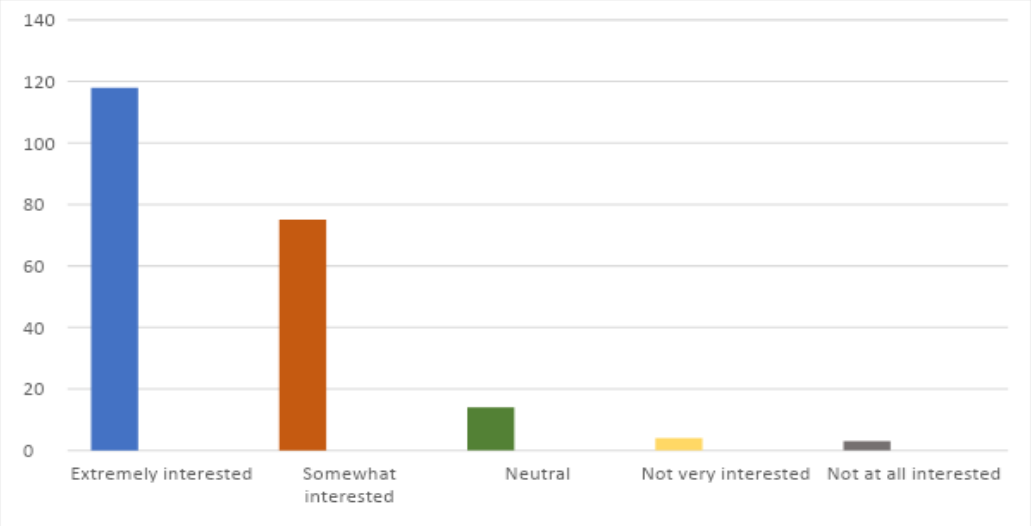

Figure 3: Students' responses to question 2 on Likert scale 1-5 in total.

The answers to question 2 show that all in all, a great majority (183 out of 214 participants) were 'interested or very interested' in the project and only a minority of 17/7 students were neutral/uninterested. The positive comments concentrated on the innovative use of tools for learning, the quality of collaboration in class and online, and the AR technologies' visual elements. The iPEAR task helped them learn together in a fun, game-like and creative way that triggered enthusiasm, motivation and personal responsibility for learning with peers. The few negative comments focussed on technological issues, such as technology's role in the task and the availability of devices. One student felt anxious when trying out new technologies.

3) Did this learning approach make you feel more responsible for your learning? Why?

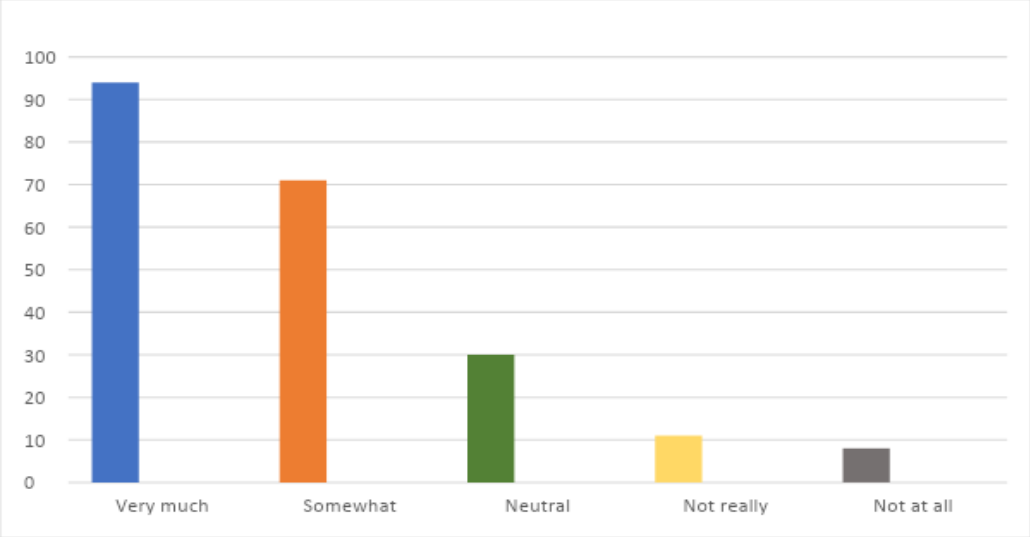

Figure 4: Students' responses to question 3 on Likert scale 1-5 in total.

Despite the different tools and disciplines, the responses regarding empowerment were overall positive (165/214). Only a minority of students was neutral or negative (30/19). The students who did not feel empowered considered the iPEAR learning childish and preferred a more teacher-centred approach rather than taking the responsibility of knowledge sharing with others. On the positive spectrum, research informants were excited that they were allowed to improvise with the tools, brainstorm with ideas, and work with others. They felt responsible for the learning outcome of the iPEAR task, such that even the 'bad' students participated more.

4) Do you think it would be helpful in other courses as well? Why?

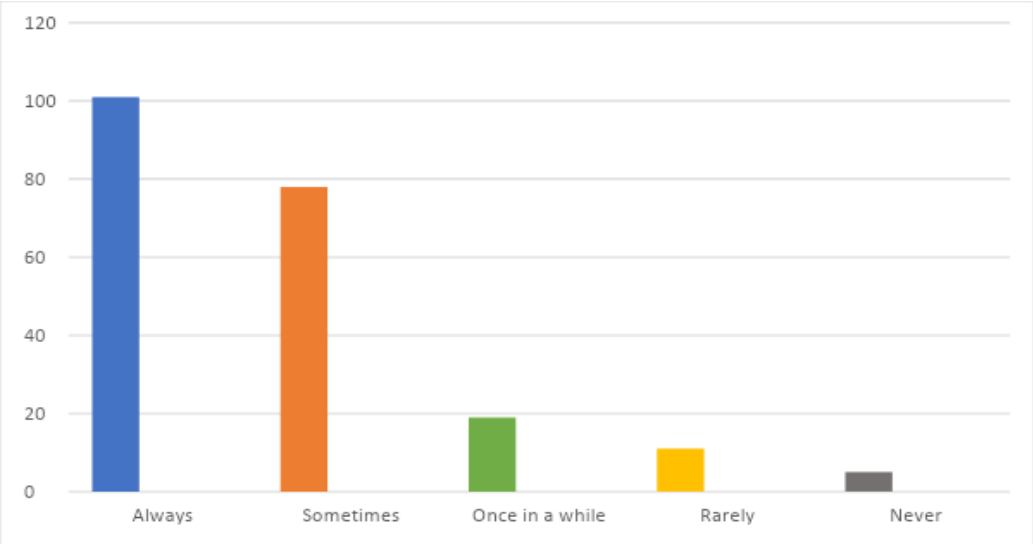

Figure 5: Students' responses to question 4 on Likert scale 1-5 in total.

Almost half of the students (101/214) think that the iPEAR approach has the potential to always be applied in courses; 78 claim that it could be used sometimes, 19 once in a while, 11 rarely and 5 never. On a positive note, students utter that visuals make learning more experiential and better explain abstract concepts. Digital skills are essential and social

interactivity makes learning fun and more engaging. The negative comments focus on the misconception that AR is for children, the reluctance to work and learn with others, and the lack of incentives. The statement that visuals are tiring refers mainly to HoloLens headsets. Technologies are challenging, especially for inexperienced students; some see barriers to using iPEAR in disciplines such as maths.

These results of the student survey prove the positive impact of the iPEAR approach independently of the subject and verify the expressions of educators. The majority of students liked the experience of learning with peers; they were interested in teaching each other and in sharing content and thoughts, as the collaborative approach combined with the visual technology of AR motivated them and made them feel responsible for their learning and for the group. Some reported feeling enthusiastic by this opportunity to learn together in a game-like and creative way. Part of this enthusiasm is surely owed to the novelty of the iPEAR experience, but this cannot diminish the result of the students' survey significantly.

CONCLUSIONS

The evaluation of students' answers based on the frequency of responses-inferential statistics confirm the hypothesis that the iPEAR approach is a practical learning method. Proof is supplied here through a sample of university students, but the approach could be extended in the future for groups of UCE learners. In our understanding, all learners at the university level react similarly to the specifics of the iPEAR approach.

As a generic pilot study that aims to map technology-enhanced pedagogical interventions, there is evidence that the iPEAR approach could enhance students' interest, motivation, and empowerment in a broad spectrum of courses. Despite the various tools and disciplinary boundaries, the students' perspective on the iPEAR approach is cumulatively positive. They felt engaged, motivated and empowered to work creatively with their 'learning buddies' to explore AR, visuals, and human-to-human relationships. The pedagogical model promotes gameplay, visualisation, wonder and discovery learning instead of uniform lecture time. They could apply AR digital skills and cooperation experience in their future careers.

The preparation of students by their educator was crucial for them to understand what they had to do. A lack of training, vague assignments, or too many tools to choose from could easily end up in mutual frustration. Planning in terms of engagement, time and reflection process have substantial impact on students' performance. Depending on their students' learning disposition, educators could be a *queen on a throne*, letting students work collaboratively and observe; in other cases, they could be *guides on the side*, mentoring P2P groups or *fellow travellers* learning at the exact times as the students.

A prerequisite of the successful application of the iPEAR approach is that educators embrace inclusive values (no-one left behind perspective) to avoid marginalising students with individual difficulties, compatibility issues, lack of pieces of equipment, etc.

The limitations of the iPEAR approach lie first and foremost in the digital divide that may create havoc for educators and their students. Some devices, such as HoloLens, are expensive to be bought by institutions. The lack of devices in class and limited internet connection could hinder the use of the AR aspect. The BYOD perspective causes difficulties due to socioeconomic status. Some students have elaborate smartphones that support AR technologies, while others may not be able to afford to buy such devices. Compatibility issues arise with some devices, for instance, between Apple and Android devices, and older devices still do not support ARCore. Creative solutions, sharing of devices, and collaborative netiquette could solve some of the challenges of the iPEAR approach. Additionally, a reward

system for inclusiveness and peer-to-peer learning helps motivate students to engage more and mirror positive behaviour for democratic participation in education.

In the future, new apps and tools will be developed that mix the physical and digital world harmoniously, making implementing the iPEAR pedagogy even easier. Further research could shed more light on how visual learning could enhance understanding, memorisation, and creativity. Pedagogies promoting students' choice and empowerment are future directions that could lead students to be self-directed, lifelong learners.

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DESIGNING FLEXIBLE LEARNING PATHWAYS THROUGH MICRODEGREE PROGRAMMES: TALLINN UNIVERSITY'S APPROACH TO LIFELONG LEARNING

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Keywords: *Microdegrees, micro-credentials, flexible learning pathways, lifelong learning, personalised learning*

ABSTRACT

This short paper explores Tallinn University's experience with the development of microdegree programmes and their potential to help design flexible learning pathways for learners. Microdegrees are extensive continuing education programmes that can be based on the subjects of a degree programme or as a stand-alone continuing education programme. The Tallinn University Open Academy coordinates and develops continuing education and microdegree curricula and conducts networking opportunities for training coordinators of the university's seven institutes. In collaboration with the training coordinators, the Open Academy is developing a tool for the evaluation of microdegree programmes.

INTRODUCTION

In the 21st century, we can witness the growing importance of lifelong learning (LLL) – it has become essential for people to keep up with changing labour market and societal demands. Personalised and flexible learning opportunities are being developed to meet the diverse needs of adult learners. One of the most promising ways of providing these flexible learning pathways is through microdegree programmes, which offer a wide range of continuing education opportunities, either based on university degree programme subjects or through separate continuing training courses. Learner-centred approaches are prioritized in the Estonian education system, and personalized, flexible learning supported by modern technology is an effective method of achieving this goal. The education system should equip learners with knowledge and skills to meet the challenges brought about by industry automation, digital transformation, the introduction of new technologies and the transition to a climate-neutral economy. The new Estonian education development plan for 2021–2035 is focussed on making learning more relevant to labour market needs, providing flexible learning pathways, and offering diverse learning opportunities for all members of society.

In Estonia, Tallinn University is one of the recognised leaders in creating and implementing microdegree programmes that support LLL and focus on learners' needs. In this short paper, we will discuss Estonian education policy, the importance of LLL and individual learning pathways, and Tallinn University's approach to the latter, with the help of microdegrees. We will also present the results of a mini-study conducted to understand learners' experiences

from microdegree programmes. The aim of this study is to develop a universal evaluation and reflection tool that will be used to further improve the programmes. One of the objectives of Tallinn University Open Academy is to connect academia and society through microdegree programmes, which provide more personalised solutions for learners who are not ready to take a big academic step but still want to develop themselves from a LLL perspective. We believe that flexible and personalised learning is based on the learner's own interests, abilities, needs and learning style, and microdegrees can be used to enhance the concept of flexible learning pathways. This paper presents the results of our mini-study conducted earlier this year, which was aimed at exploring how the experience of microdegrees shaped learners' personal learning paths. Interviews were conducted with eleven learners who had completed the microdegree programme. This paper describes the process that led to the development of an instrument that measures the performance of microdegrees and also offers reflection on the participants' experiences.

IMPORTANCE OF LIFELONG LEARNING AND PERSONALISED LEARNING PATHS

Today, the idea that human life is divided into distinctive and identifiable stages – childhood, schooling, working life and retirement – is fading. More than diplomas and degrees, lifelong learning is required to keep knowledge and skills up to date (Varblane, 2023). The Estonian education development plan for 2035 prioritises LLL and opportunities for career change: skills that create greater added value are recognised, and all people in Estonia have the opportunity to acquire the knowledge and skills they need to succeed in the labour market through further education and retraining. Therefore, it is essential to promote more efficient use of the labour market potential of adults, including entrepreneurship, and to enable simultaneous learning and working (Education Strategy 2021–2035). Fewer young people enter the labour market than leave it because of age, as Estonia's natural birth rate has remained negative for decades. In recent years, however, instead of decreasing, Estonia's population has been growing, as positive immigration exceeds negative natural birth rates. Half of the new labour force is needed to meet the demand for workers with higher education, and a third of the new labour force require a level of skills equivalent to that of a vocational education. The role of further training and retraining, including microdegrees, will continue to grow in importance in order to acquire the skills needed for working life (Rosenblad *et al.*, 2023).

One of the objectives of the Estonian Education Strategy is learner-centred learning, which takes into account the individual differences and development needs of learners in order to empower them. Learner-centred education supports the learner's development of reflection skills, agency, learning to learn and other transferable and future competencies, social and emotional well-being and readiness for LLL. Learning pathways that enable individualisation in a seamless learning environment will become necessary. This means reducing the barriers that prevent mobility between formal, non-formal and informal learning, and also between general and vocational education. Learners are free to tailor their learning pathways according to their needs and abilities by learning in smaller modules (e.g., microdegrees) that can be counted as part of the formal curriculum (Education Strategy 2021–2035).

Flexible learning pathways for adults can be tailored to their unique interests, abilities, and needs. These programmes encourage curiosity and take into account the learner's preferred way of learning. They allow learners to have more control over when, how long, how much and how they learn. This gives them the ability to be more independent in the learning process. Adult learners set their own goals and are expected to take responsibility for their learning.

TALLINN UNIVERSITY'S APPROACH TO MICRODEGREES

Universities worldwide play an important role in addressing societal challenges and leading major change. They are often seen as key providers of solutions to global challenges (Varblane, 2023). Tallinn University's mission is to support Estonia's sustainable development through high-level research, teaching and creative activities, social debate, entrepreneurship, cooperation with the public and third sectors and the development of academic partnerships. We need to adapt accordingly to rapidly evolving expectations in the field of higher education. As the importance of LLL grows, the student community is diversifying. It now includes those who were previously regarded as non-traditional learners: those who either postpone entering university, who study while working, or those who do not have a standard upper secondary education.

The concept of microdegrees is strongly linked to the growing need for LLL and can be seen as one manifestation of the personalisation of higher education. Although the concept of is not precisely defined, and its meaning may vary from one country to another, the relevance of microdegrees is recognised. Tallinn University offers microdegree programmes that comprise a thorough curriculum based on the subjects taught in degree programmes (bachelor's or master's level) or a separate curriculum designed for continuing education, or a combination of both. These programmes are a response to the changing needs of society and the rapidly evolving job market. The university collaborates with employers and other partners to develop microdegree programmes while adhering to the highest standards in education. When designing the programmes, it is essential to follow best practices to ensure their quality and that they meet the related requirements of Tallinn University.

The Tallinn University Open Academy coordinates and develops continuing education and microdegree curricula and conducts networking opportunities for training coordinators working in all seven institutes of the university. In 2022, the data, insight and consultancy company Kantar Emor conducted an extensive multi-phase survey among Estonian citizens. Tallinn University was involved in the study and contributed to the methodology. The survey revealed a strong interest in continuing education and self-improvement among the Estonian population, especially among younger, higher educated, and Tallinn residents. The majority want to take part in further education and training to improve their skills in their current job, for self-development, or to pursue a hobby. Popular training areas include personal development, languages, IT and communication and business and administrative skills. Employers support participation in training by allowing time off work to attend training and by organising and covering training costs.

The survey results showed that 22% of respondents had heard of microdegrees, and their first impressions were mostly positive. People see the value of microdegrees mainly in updating professional skills or acquiring new skills. It is also important to note that people aged 50–65 are less interested in training, and their preferences differ from younger age groups. They may need a different approach and course design. The study suggested that some microdegrees could be offered online and targeted to more remote areas regionally in cooperation with local education networks.

MINI-STUDY ON MICRODEGREES – METHOD AND RESULTS

This year, the Tallinn University training coordinators' network is creating a tool for the evaluation, analysis and improvement of their microdegree programmes. As a result of the collaboration between the Open Academy and the training coordinators, a mini-study, "Microdegrees as shapers of flexible learning paths," was conducted. The results provide valuable insights into how microdegrees can shape learners' personal learning paths.

The need for the study arose out of a practical shortcoming. Namely, Tallinn University's microdegree programmes students have similar responsibilities to degree-level students, but do not yet have an adequate digital system to support them. While degree-level students can leave feedback about the entire learning process in the university's information system, feedback from microdegree programme students has not been coordinated, leaving the programme training coordinators free to decide what data to collect and how to analyse it. Therefore, drawing broad and all-encompassing generalisations and conclusions about microdegree programmes as a whole is challenging due to the fragmentation.

The mini-study involved semi-structured online interviews with eleven participants who had enrolled in various microdegree programmes, in which microdegree students were integrated into course groups of degree students – Entrepreneurship Education (1), Smart Parent (2), Introduction to Andragogy (3), Applying Digital Pedagogy (2), and Microdegree for Special Needs Teachers (3). Each interview lasted approximately 20 minutes and was comprised of 10 questions designed to gain a comprehensive understanding of the participants' experiences. The study utilised a convenience sample that featured five different microdegrees, allowing the researcher to conduct the interviews efficiently. Open-ended questions were used that prompted participants to elaborate on their thoughts, experiences, and suggestions for improvement. The challenge was how to collect valuable data in the future without relying solely on the interviews, as this sort of approach is extremely time-consuming.

Interview questions:

1. What led you to enrol in a microdegree programme at Tallinn University?
2. Did you consider other study options before making your decision?
3. How did you manage to combine studies with work and personal life?
4. What were the challenges and obstacles?
5. In terms of your experience in the microdegree programme, to what extent did belonging to a group play a role in your successful studies?
6. To what extent was networking or being part of a professional community important?
7. How has studying in a microdegree programme impacted your career opportunities?
8. Looking back, is there anything you would suggest being done differently in the programme?
9. On a broader scale, what do you believe is the role of microdegrees in education and workforce development?
10. Has your participation in the programme changed your perspective on the importance of lifelong learning?

The interviews were transcribed, and the material was then analysed by the training coordinators at an all-day seminar, a creative lab organised by Tallinn University Open Academy. The interview material was first coded and categorised, working in pairs, and then the findings were brought to bigger groups of training coordinators to find similarities and differences and to map the progress.

During the interviews, it was highlighted that fostering a stronger sense of belonging among learners of the microdegree programme is necessary. However, the degree to which this is achieved relies on the curriculum structure and teaching methods of each programme.

> *In fact, as a participant in the microdegree programme, I attended without being part of any course group. Although I had encountered other microdegree participants, we weren't actively communicating with each other, so we were working independently most of the time. When we were engaged in group work at certain points, I realized that the tasks were only discussed there, and I had to figure out the rest on my own. However, I didn't always know how to ask questions or understand certain nuances*

> *related to the subject or the lecturer since it was my first experience with Tallinn University. Consequently, I felt a lack of a strong support group, which was a concern for me at times.*

We noticed that students participating in a microdegree programme might require additional support or mentorship from the university compared to regular students of degree programmes. Having a dedicated mentor or support system from the university can help these students navigate the course materials, develop essential learning skills, and overcome any obstacles they may face during their educational journey.

> *The key for Tallinn University is to be more approachable and accessible. When shy adults unfamiliar with this world join the programme, perhaps a mentor could be available to assist them. Sometimes, it's not necessary to actively seek out a mentor; just knowing there's someone they can turn to for help could already relieve the pressure. It's important to have a person they feel comfortable approaching – someone other than a lecturer, as they might be hesitant to ask questions out of fear of appearing incompetent or stupid.*

Within the context of LLL, a number of interviewees perceived microdegree programmes as a way for learners with considerable life experience to explore new fields, showcase their abilities, or potentially shift their career paths. These programmes facilitate personal and professional development by equipping participants with relevant skills and knowledge that align with their objectives.

> *I believe that learning what is currently relevant is our future. Many people in my social circle are aged 40 plus. For instance, my best friend and relative has been a highly respected doctor, but she no longer finds this profession fulfilling. She is now considering microdegree programmes as an alternative. She isn't interested in pursuing a master's degree or dealing with the stress that comes with it. Instead, her goal is to expand her skillset and find new ways for personal growth.*

> *The idea of piecing your education together from microdegree programmes seems like a viable option for people who have already gained life experience and are either working or have been employed in the past. However, I think it might not be the most suitable approach for students fresh out of school. It's crucial for them to first obtain a solid foundation in their chosen field before exploring more specialized, modular learning opportunities.*

We found many hints from the results that clearly support the prerequisites for adult learning previously described by Malcolm Knowles. The results demonstrated that adult learners need to understand the purpose behind learning something before they can effectively learn it. Secondly, adults have a strong sense of responsibility for their own decisions, and this is an important part of their concept of self. Thirdly, adults bring with them their own experiences from their past lives, which can shape their approach to learning. Fourthly, adult learning often revolves around tasks or problems, and the assimilation of new knowledge is most effective when it can be applied to real-life situations. Finally, while external motivators like a better job or pay raise can drive adult learning, intrinsic motivation, such as the desire to increase job satisfaction or improve self-esteem, plays a more significant role (Knowles et al., 1998).

The interviewees willingly provided forward-looking feedback on how we could improve and develop the microdegree programmes, but our task was also to clearly formulate the purpose of the feedback questionnaire from both the university's and the participants' points of view. We noticed that in addition to providing feedback, the questionnaire also could also act as a reflection tool. For many learners, giving feedback was the first moment in a while

after finishing their studies where they could think back, analyse, reflect on the experience and plan the shape of their flexible learning path accordingly. We decided that our universal feedback questionnaire for microdegree students must be designed and worded intelligently enough to serve as a learner's reflection tool as well. As a result of the creative lab, a smaller working group for the microdegree questionnaire was created, which is currently working on the details of the questionnaire so that the new assessment and reflection tool will be ready by the end of this semester. We would like to link it with the new continuing education information system that is currently being created.

CONCLUSION

In conclusion, LLL and flexible learning pathways are crucial in a dynamic labour market and evolving society. Microdegrees present a promising way to provide adaptable learning opportunities to adult learners. Tallinn University is one of the pioneers in Estonia with its approach to microdegree programmes that address the constantly changing needs of society while upholding high educational standards. The mini-study conducted by Tallinn University's Open Academy and training coordinators offered valuable insights into the experiences of microdegree learners, and a new assessment and reflection tool is being developed based on the study results. Tailored and flexible learning pathways that take into account the unique needs and preferences of individual learners are fundamental for empowering them to reach their full potential and achieving success in their personal and professional lives.

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SYSTEMATIC POTENTIALS FOR CO-OPERATION: UCE AS A GATEWAY FOR HIGHER EDUCATION?

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Keywords: *Educational system, institutional structures, Switzerland, advanced studies, university continuing education, higher education*

ABSTRACT

Depending on the point of view, University Continuing Education (UCE) can be framed as being part of Higher Education (HE) or not. UCE and HE are two unequal partners under the umbrella of universities. This article aims to clarify the relations between HE and UCE before calling for action for cooperation. Using the Swiss educational system as an example, aspects of horizontal and vertical cooperation as well as qualitative aspects of working together are discussed. The aim is to systematise the concept of cooperation with a focus on structural and institutional perspectives, including contextual preconditions. From this perspective, UCE can span institutional boundaries and be a gateway to HE.

INTRODUCTION

This article aims to clarify the positions of Higher Education (HE) and University Continuing Education (UCE) before recommending courses of action for cooperation. Very different meanings can be embedded both in HE/UCE and in cooperation. This will be shown in the context of the Swiss education system. A systematic approach could be of use as a basis for discussing cooperation between HE and UCE, as well as for developing appropriate explanations and models for universities' specific institutional contexts.

The first section explains the Swiss context as a basis for contextualizing HE and UCE. In the Swiss education system UCE holds a unique position: the structure of UCE, which is outside the HE study programmes (Bachelor, Master, PhD), nevertheless uses the terminology of the Bologna Process, such as the European Credit Transfer and Accumulation System (ECTS), or the three cycles of degrees. The aim is not to generalise the Swiss context (which, indeed, includes different institutional solutions and not just one model), but to discuss the conceptual framework based on the specific Swiss example. The Swiss educational system is suitable because UCE is partially systematised into programmes that could serve as a reference for cooperation with/into universities and be of interest to a wider audience.

In the second section, the different levels of UCE are explored. This is particularly important for the exploration of cooperation. Aspects of cooperation are more general in nature, but again, a strong tradition in Swiss Vocational Education and Training (VET) of "learning site co-operation" can be conceptually generalised and extended to models of cooperation in different educational settings (see Fazekas and Field, 2013). Of course, before conceptual frameworks are adapted to different settings, they need to be placed within the context of actual conditions in a country or in an educational system.

The third section presents four different models of co-operation between HE and UCE. These models demonstrate the necessity to clarify conceptual frameworks in advance. With this systematic, institutional, and conceptual approach, misunderstandings could be avoided, and universities could develop clear courses of action.

The conclusion addresses horizontal, vertical, and qualitative aspects of cooperation related to the question of UCE being a gateway to HE.

THE SWISS CONTEXT

The target level of this article, tertiary education, follows compulsory primary and secondary school education. In Switzerland, a distinction is made between a professional and an academic pathway of HE. Within the academic pathway there is a choice of three different types of universities[1], running Bachelor-, Master-, and in some cases PhD-programmes.

In addition to HE being part of the formal education system, continuing education also includes a wide range of work-adjacent learning, general and political adult education. Upper continuing education lies at the intersection of higher and continuing education. In terms of degrees, it is positioned outside the formal education system. Nevertheless, in addition to courses, conferences, modules, etc., Switzerland has created UCE programmes with three cycles: Certificate, Diploma and Master of Advanced Studies (CAS, DAS, MAS). These programmes do not lead to degrees that are recognised in the HE system and, conversely, Bachelor, Master and PhD are not part of the UCE study programmes. We see two different educational areas operating under one umbrella: the HE programmes with tertiary degrees and the UCE programmes with certificates.

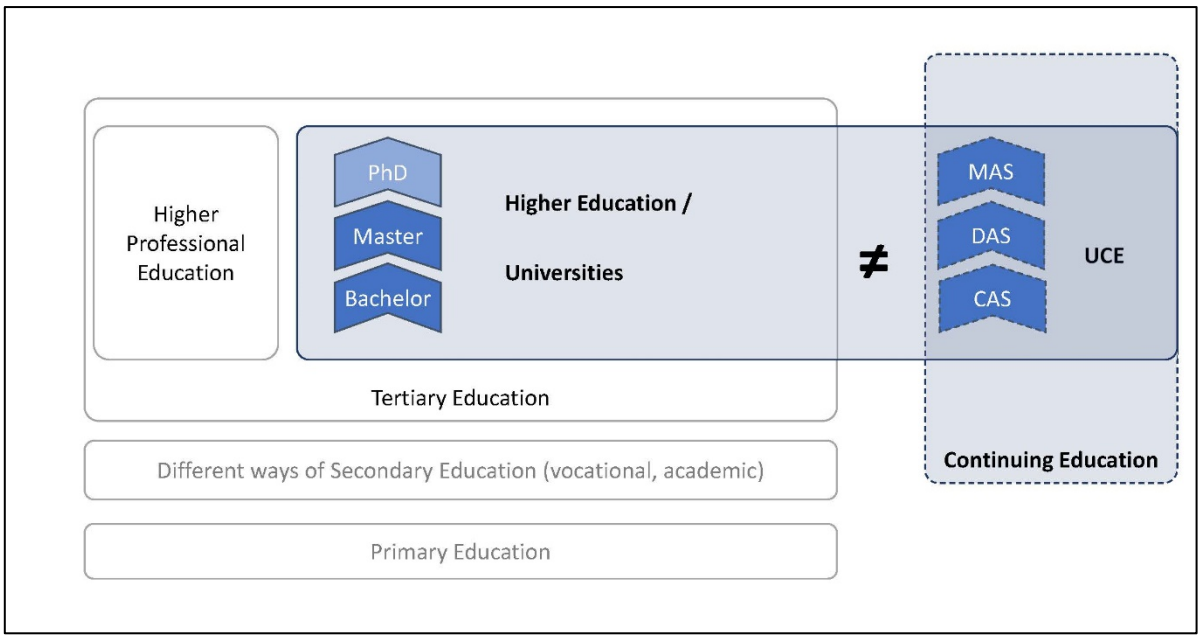

Figure 1: Sketch of the Swiss Education system with a focus on University HE and UCE (source: own elaboration; see also SERI 2019).

[1] In Switzerland there are three types of academic HE institutions: Universities, Universities of Applied Sciences and Universities of Teacher Education (SCCRE, 2023, pp. 194f.). In the following, they will be referred to as "universities" because the differences do not have a significant impact on the argument.

Looking at UCE programmes in more detail reveals that: they have adopted a recognised structure of CAS, DAS, and MAS that mimic the three cycles of HE as per the Bologna Process (Bachelor, Master, doctorate (PhD)). All universities can offer all HE and UCE programmes, except for the PhD, which may not be offered by Universities of Applied Sciences and Universities of Teacher Education (Schweizerische Eidgenossenschaft, 2019, Art. 4, 1c).

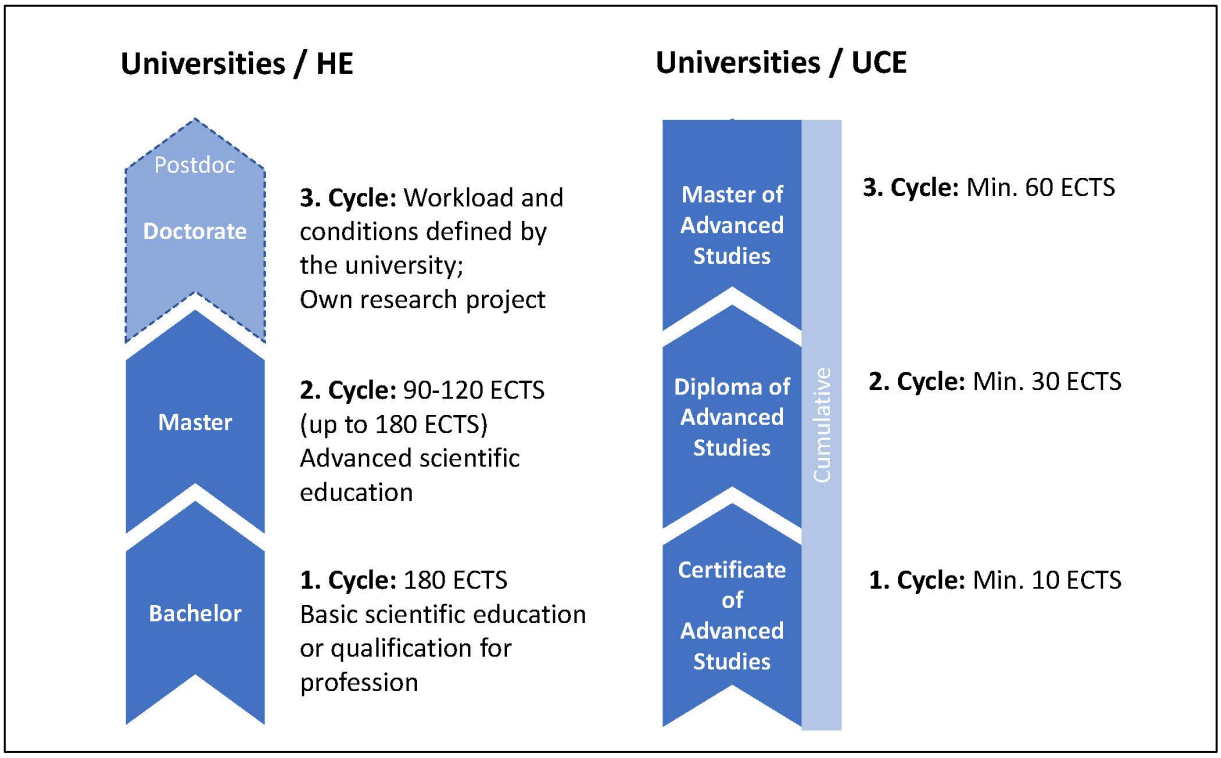

Figure 2: HE and UCE cycles at Swiss universities (source: own elaboration; see also Weil and Eugster, 2019, p. 144)

In addition, continuing education is defined as one of the four academic areas at universities and thus distinguished from study programmes (Bachelor, Master, PhD), research, and services. In a broader sense, UCE may include programmes, modules, courses, conferences, etc. as well as customised educational services, such as in-house training and consulting (see swissuniversities, 2017, p. 105) which might take place outside the university.

Against this backdrop, the relationship between UCE and HE may vary according to their positioning: HE can systematically include or exclude UCE. This might lead to different preconditions in governance, funding, and target groups. Accordingly, this has an impact on shaping cooperation between UCE and HE.

MULTIPLE LAYERS OF UCE

The multiple layers of the education system have been studied in different contexts (for continuing education, see Schrader, 2011, p. 107). The following approaches present different framings for UCE relationships within universities (see also Tremp and Weil, 2023, p. 25).

- *Systematic*: positioning within the education system (e.g., universities (tertiary A) as distinct from higher professional education (tertiary B))
- *Institutional*: positioning of UCE within HE institutions (e.g., UCE as a third space position between academia and management)
- *Functional*: distinguishing UCE as one of the four academic areas of universities (e.g., UCE in comparison to study programmes, research, and services)
- *Social*: connecting different academic settings (e.g., using UCE as an academic community across faculties)
- *Economic*: realisation of UCE markets (e.g., UCE customer relationship management)
- *Curricular*: Designing UCE into a curriculum and/or relating it to HE curricula (e.g., UCE curriculum for school principals in Switzerland)
- *Didactic*: applying UCE methodologically in teaching (e.g., designing teaching-learning settings with heterogeneous groups of adults)
- *Competence-based*: Applying UCE as competence development (e.g., qualification framework for UCE)
- *Individual*: embedding UCE as part of a learning biography (e.g., UCE as part of an academic career)

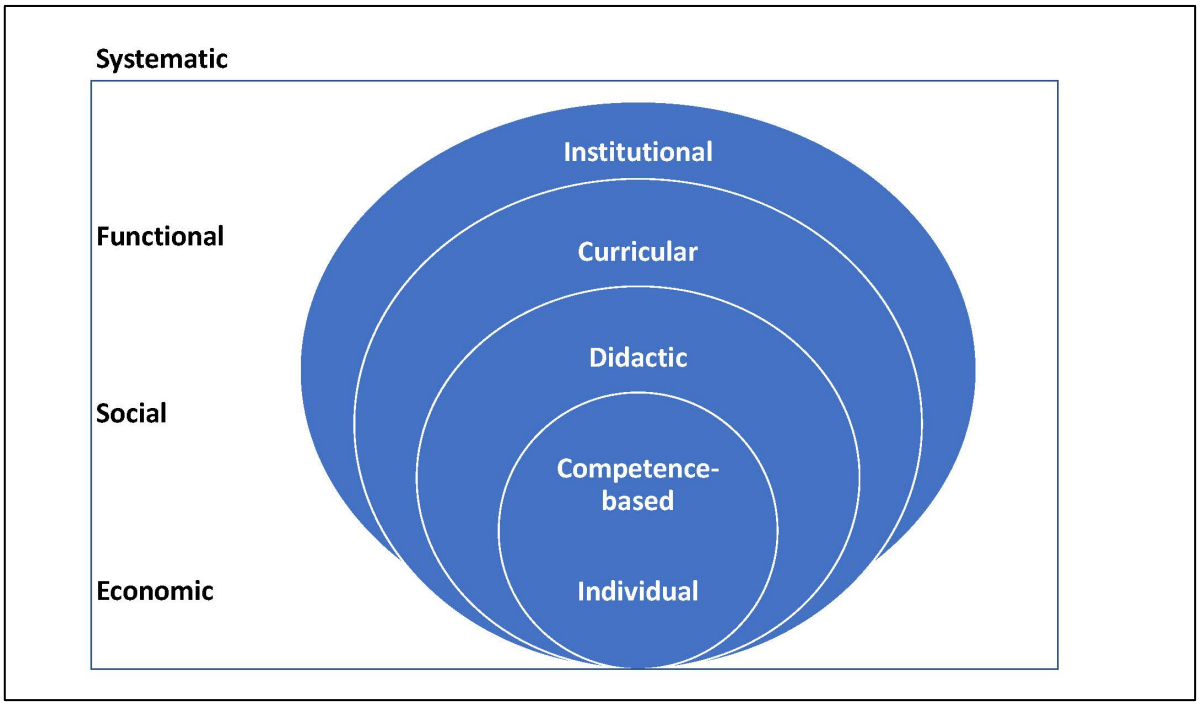

Figure 3: Layers of HE and UCE (source: own elaboration; see also Schrader, 2011, Tremp and Weil, 2023)

Again, each of these generalised approaches may also lead to differing or even contradictory responses when it comes to, for example, legal frameworks, quality assurance, accreditation or relationships with research and practice. Therefore, cooperation and the position of UCE within universities may vary depending on the approach or combination of approaches. The layers provide a base for designing relationships and locating the unique position or the specific aspect of cooperation. More specifically, the layers allow one to address internal and external target groups regarding academic staff development as an institutional responsibility (see Kamm *et al*., 2016, p. 138).

SYSTEM BOUNDARIES AND OVERCOMING THEM

Cooperation is only necessary when certain aspects have been previously conceptually separated, which is the case for HE and UCE. From a holistic standpoint, it would thus be necessary to (re-) link UCE's and HE's two positions. This has been discussed for the intersection of research and teaching at universities (Tremp, 2005, p. 341f.). Now, looking at the systematic and institutional approach of HE and UCE, four categories are suggested as a typology for their relationship:

1) **"Systematically and institutionally separated"-model:** Universities are exclusively focused on HE. UCE is offered by different institutions. UCE is not systematically recognised in HE.
2) **"Institutionally integrated but systematically separated"-model:** One institution provides HE and additionally UCE. They are linked to two different educational system segments and function separately, although the infrastructure, topics, and staff might be shared.
3) **"Institutionally separate but systematically integrated"-model:** The HE system includes UCE programmes, both learning pathways are recognised mutually. But the providers of UCE and HE are institutionally separated.
4) **"Systematically and institutionally integrated"-model:** HE and UCE function as part of the same framing and are mutually recognised. So, initial and continuing education are open to both students and adult learners (examples: open courses, MOOCs) and are provided from and integrated in the same institution.
(see Gonon and Weil, 2021)

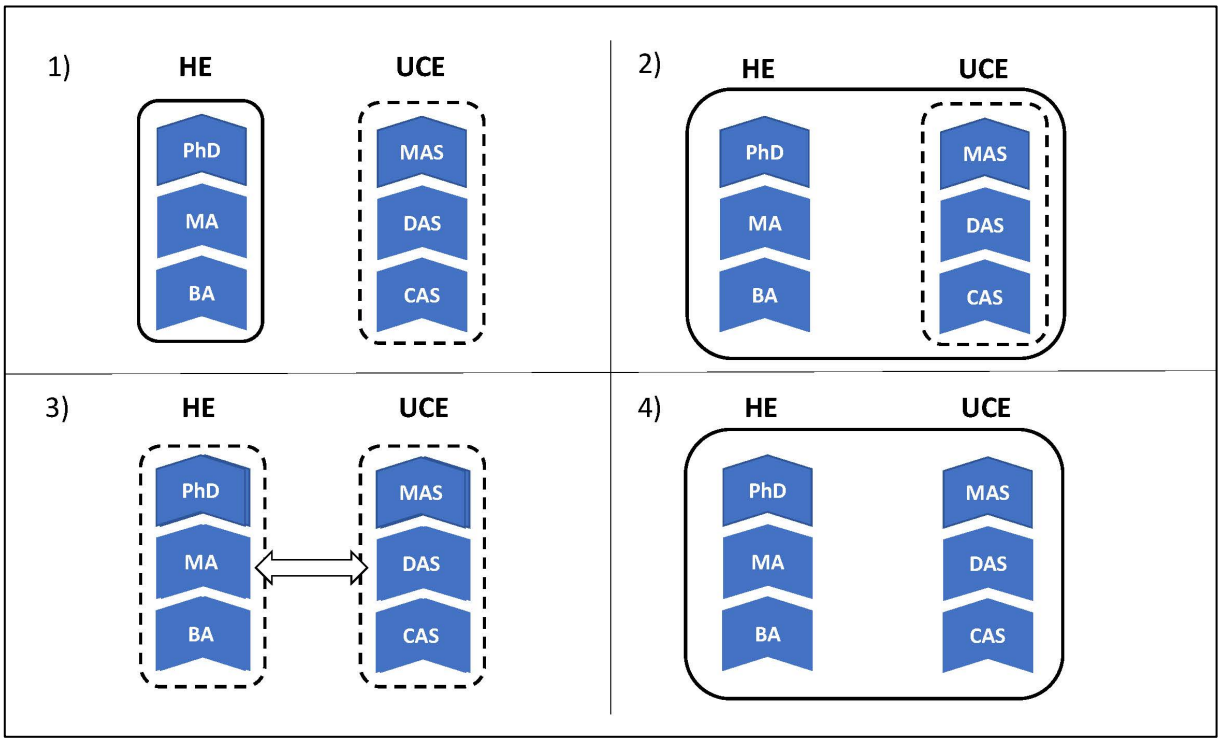

Figure 4: Four models of systematic and institutional cooperation between HE and UCE (source: Gonon and Weil, 2021)

The notion of cooperation can carry different meanings within the four models of relating HE to UCE. Now, the qualitative aspects of cooperation are of interest for further discussions. Kyrer (2001) differentiates between:

1) Exchange of information
2) Exchange of experience
3) Agreement
4) Community of work
5) Community of goods
6) Community/company foundation

In other areas, such as VET, a more systematic approach to cooperation is evident than in HE. In the Swiss VET system, learning site cooperation brings together institutionally separated schools, companies, and professional associations. Thus, it is a conceptual and curricular collaboration with a common educational agreement (Fazekas and Field, 2013). This could be a good example of model 3 (see figure 4), where institutionally separate learning sites are structurally (or even curricularly) integrated. Unlike VET, HE and UCE belong to two different parts of the education system (tertiary and continuing education), so model 2 might be the more likely next step in cooperation – a systematic separation but offered and designed within one institution: the university. The quality of cooperation may be evidenced by exchange of experience, of staff or infrastructure, and/or by a systematic agreement between HE and UCE programmes. Model 4 could be discussed as a complete integration and re-organisation of the Swiss education system. Model 1, in fact, indicates no cooperation on a systematic or institutional level at all.

Coming to the questions about which areas are part of an agreement as suggested in model 2 and 3: we have a clear understanding of positioning HE as tertiary education. For UCE, this position is not so clear, because there are at least two different ways of doing it (intersection of HE and continuing education, see figure 1). For continuing education - and especially for UCE - a distinction can be made as to whether it is a resumption after an initial degree, or continuous informal and formal learning in the professional biography. This tension is visible when positioning UCE as postgraduate education or as Lifelong Learning (LLL). This needs to be recognised for cooperation missions.

- *Postgraduate education (Quaternary Education):* UCE can be conceptualised as postgraduate education, where the continuation or iteration with HE is crucial. From this perspective HE at universities includes both tertiary education and “quaternary” education as its continuation.
- *Lifelong learning*: UCE is a form of continuing education and opens HE institutions to participants with different levels of prior learning. Recognition of competences can lead to academic higher education degrees (Bachelor, Master, PhD).

CONCLUSION

Based on the presented levels of working together, as well as the positioning of HE and UCE, horizontal, vertical, and qualitative aspects of cooperation can be summarised in conclusion:

- *Horizontal cooperation*
  We can look at UCE as a gateway to HE as it brings participants with professional experience and academic background into universities. They could potentially disrupt the fixed scheme of Bachelor, Master and PhD (see Weil and Eugster, 2019). For horizontal cooperation, this could also mean working together with different learning venues inside and outside universities and recognising the UCE postgraduate’s experience as a learning resource for HE.

- *Vertical co-operation*
  Vertically, HE and UCE could be defined as two different segments of the education system on different levels. The concepts of LLL or recurrent education are available for defining cooperation. Also, the perspective of curriculum, individual biography, and the institution as an iteration could be considered (see also Kraus, 2017). UCE can be positioned as the second educational mission for universities, being a gateway into HE.
- *Quality of cooperation*
  When we talk about opportunities for cooperation, we need to look at the qualitative aspects of working together. Is it an exchange of information, staff, or space? Are there conceptual connections in the curricula of universities? These questions shape the potential agreements for cooperation that clearly set out the areas of working together between HE and UCE plus the areas where no cooperation is intended. Additionally, the qualitative parameters of how HE and UCE work together could be discussed.

The Swiss example of a systematic and institutional approach could potentially be used to facilitate discussions about where UCE is positioned in HE, and in society. The need to clarify UCE and cooperation concepts before calling for action should be demonstrated, as it can entail very different meanings. With a clear conceptual framework in mind, UCE can be a gateway into universities to participants far beyond the established target groups of HE.

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ENHANCING QUALITY ASSURANCE IN CONTINUING EDUCATION THROUGH AN ORGANISATIONAL CULTURAL CHANGE

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Keywords: *Quality assurance, quality culture, continuing education, professional development, course development*

ABSTRACT

The TU Delft Extension School for Continuing Education underwent a collaborative process to strengthen its quality culture involving professionals and leaders working on designing, developing and delivering its online courses. In this paper we describe the steps taken towards an enhanced Quality Assurance (QA) system. A key part of the Extension School's strategy to guarantee excellence in its online courses is the continuous training provided for instructors and teaching assistants who form the course teams. This is delivered in several ways: specialised hands-on courses and dedicated portals, personal guidance throughout the entire course development process, and an extensive offer of short trainings. This approach contributes both to higher quality for our online courses and to the professional development of our teaching staff, who bring their newly acquired experience and online materials back to their in-campus courses. In this paper, we share the lessons learned on establishing an organisational quality culture, defining QA standards and processes, and we showcase how the professionalisation of instructors plays a pivotal role in offering high-quality education.

INTRODUCTION

The European University Association stresses how the introduction of a quality culture requires an appropriate balance between top-down and bottom-up elements (EUA, 2006, p. 11). As the TU Delft Extension School for Continuing Education embarked on the exciting journey of enhancing its quality assurance system and processes, it laid robust foundations for a culture of quality amongst its staff. This culture of quality propagates further via the professional development that it offers for TU Delft instructors, which in turn is reflected in improved campus education.

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THE ENHANCEMENT OF QUALITY ASSURANCE THROUGH AN ORGANISATIONAL CHANGE

In 2021, the Extension School for Continuing Education (ES) was established as a permanent, independent organisational unit embedded within the TU Delft Corporate Office, following an initial seven years when ES operated as an innovation project. Due to the exponential growth in learners (almost 4 million enrolments to date), the number of products (over 200 courses), and the complexity of its processes, a systematic Quality Assurance (QA) plan was needed to ensure quality for the entire ES portfolio and for ES as an institution.

Starting in 2020, various ES staff contributed their expertise to identify the quality needs specific to the organisation. A QA working group was formed to explore the transferability of the QA set-up and processes for campus education into the ES organisation. The working group was composed of 10 members and included administrators, policy makers, education advisors, the business and education support managers, faculty online learning coordinators, the ES QA officer and the Director of ES education. They identified gaps in the ES QA processes, and looked at how existing resources from campus education could be used for QA purposes. These questions resulted in a year-long process of consultation, reflection, and discussion that were later captured in an internal report submitted to the university's executive board; it included recommendations for a new ES organisational structure that was later implemented, and for the financing of additional, dedicated QA resources.

The peculiarity of the process is that it originated as a bottom-up initiative whereby staff members were engaged early on and subsequently endorsed the QA processes that ES established. In our experience, involving staff at various levels in the organisation in those early QA discussions fostered the establishment of a culture of quality. A constructive top-down approach was adopted to support the bottom-up initiative through two structural components: the creation of an ES Quality Assurance Board (QAB), and of the Quality Assurance Officer (QAO) position. The QAB, similar to the Board of Examiners for campus education, guarantees the quality of assessments and certificates in addition to monitoring and advising on the educational quality of the ES portfolio.

These components mirrored the campus set-up, which facilitated their introduction, as staff were already familiar with this structure.

Defining Quality Standards and Processes

In 2022, ES strategic goals featured defining quality metrics for its courses and programmes. The development of an institutional strategy for the QA of digital higher education is advocated to be the first step in supporting high-quality, digital practices (Staring, 2022, p. 33). Being fully embedded within TU Delft, ES aims to guarantee the same educational quality. The Assessment Framework for the Higher Education Accreditation system of the Netherlands (NVAO, 2018) was the starting point for the creation of our organisation's quality framework. The working group broadened its search to industry-leading, international QA frameworks, to identify the standards that would best fit our specific online, continuing education offer. The international frameworks consulted were the E-xcellence Manual (EADTU, 2016), the OSCQR – SUNY Online course quality review rubric [1], and the OLC Scorecard Suite[2]. Taking inspiration from those, the QA working group sought input from staff at all levels in the ES organisation - from senior leaders to administrators and faculty members. Feedback was provided on the quality standards that resonated the most with the ES mission statement and our educational philosophy. This joint effort resulted in a custom-

[1] https://oscqr.suny.edu/get-oscqr/

[2] https://onlinelearningconsortium.org/consult/olc-quality-scorecard-suite/

made and purpose-built set of multi-layered quality standards and indicators (see Figure 1), empowering stakeholders to uphold quality in their activities. The quality standards and indicators serve as a benchmark to evaluate the impact of our organisation, measure the performance of our portfolio, and report on the achievement of our stated goals (TUD ES, 2022a).

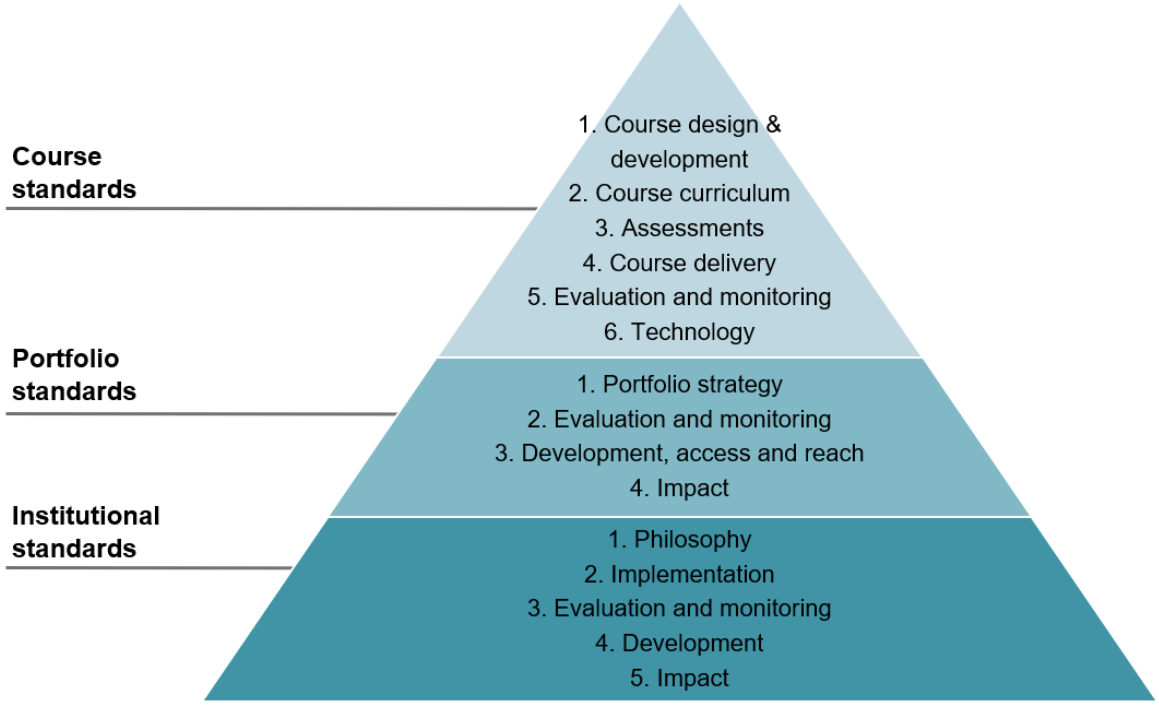

Figure 1: ES three-level quality standards

The stakeholders consulted for each level of the quality standards were, respectively:

- Institutional level (meso-level): management team members, policy advisor, ES executive director and director of ES education;
- Portfolio level (macro-level): product portfolio managers, business development manager, marketing staff, faculty academic portfolio directors and learning developers (LD);
- Course level (micro-level): all LDs, technical instructional designer, faculty online coordinators and education support manager.

The quality standards were reviewed by the ES QAB and approved by the ES management team.

Having established a quality framework, ES staff, led by the QAO, collaborated on identifying processes that could be used to measure, monitor, and regularly report on performance against the given quality framework. This meant identifying existing instruments, such as learners' surveys, which served the purpose of assuring quality, and whether they would need further optimisation to ensure that data was disseminated with the specific purpose of improving the learners' experience. A yearly portfolio review serves to monitor and evaluate the performance of the ES products to assure their quality and market relevance. Such measurement activities and all QA processes have been captured in the QA Handbook[3]; this includes descriptions of the structure and the reporting activities and materials that ES utilises to keep internal and external stakeholders informed about results and potential future improvement.

[3] https://issuu.com/tudelft-extensionschool/docs/es_qa_handbook_-_jan_2023

Focus on Quality Culture

Once the quality framework was established, the ambition was to raise awareness of the quality standards and to propagate a culture of quality across ES, including the embedding of the standards in its everyday operations and processes. To address the cultural element of quality consisting of shared values, beliefs, expectations and commitment towards quality (EUA, 2006 p. 10), ES needed to develop its own shared vision of the organisational quality culture. We conducted an anonymous survey amongst ES staff to start defining elements for a shared vision and to benchmark the organisation's quality perception. The survey results revealed that staff feel responsible and accountable for the quality of their work and have a strong commitment to collaboration aimed at continuous improvement, a characteristic that is also shared by members of the ES leadership. The lack of specific metrics and unclear quality assurance processes were identified as shortcomings. The overall organisational quality culture was rated 'good' by 71% of respondents (n=25), 'fair' by 17% (n=6), 'excellent' by 8% (n=3), and 'poor' by 2% (n=1). Shortly after the survey, we organised a strategic session whereby all ES staff were invited to participate in discussions and activities around the quality values, beliefs, and commitment that characterise our organisation. The values that resonated the most with the staff were: collaboration, professionalism, trust and commitment to continuous improvement. Using input from the session, we finalised a shared definition of quality culture for ES and our own tagline:

"Committed to excellence, because we care"

We plan on repeating the survey and engaging staff on the discourse of quality culture. During this process we have learned that establishing a shared culture of quality requires the early involvement of staff at various levels within the organisation through an iterative approach. Anonymous surveys are an effective way to collect baseline data, identify challenges, and collect suggestions for improvements across the entire organisation. Instructors play a crucial role in providing our learners with the high-quality learning experience to which we are committed.

In order to do so, TU Delft instructors are supported in the design, development, and delivery of online courses which meet defined quality standards, through an online course development process. This four-step process, shaped through regular iterations, provides individual guidance, resources, and guarantees the delivery of an optimal learning experience.

ONLINE COURSE DEVELOPMENT PROCESS

ES delivers continuing education by developing a variety of online courses such as Massive Open Online Courses (MOOCs), professional education courses (ProfEds), and Online Academic Courses. Quality in their development is ensured by assigning each course team a designated LD who provides extensive guidance on learner-centric course design for the online format. Additional benefits of this approach are that course team members (instructors, teaching assistants, and content experts) can learn on-the-job and improve their (online) teaching skills. Guidance is also provided for marketing, technical support, media and video production, copywriting and course moderation. The online course development process, outlined in the ES Roadmap (TUD ES, 2022b), is similar to the instructional design model ADDIE (analysis, design, development, implementation and evaluation) (Spatioti *et al.,* 2022). The initial phase starts with a call for proposals. The process consists of four phases: Plan, Produce, Run, and Evaluate, with a total duration of approximately nine months, as shown in Figure 2. Outputs of each of these four phases are monitored and used to further improve QA aspects.

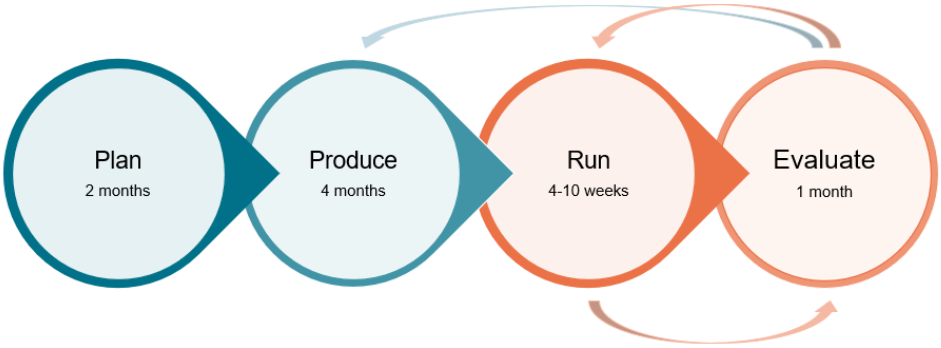

Figure 2: Online Course Development Process Timeline

Plan Phase

The plan phase consists of both planning and designing the course. At this stage, the training needs of the course team members are also identified and addressed. The outputs of this phase are the course Blueprint[4] based on the application of the Online learning Experience tool (OLE radar) described in the pedagogical model (Jorge, 2015, p. 2) the Storyboard, and the Course About Page. The Blueprint provides a visual overview of the online learning experience including the target audience, the learning objectives, and assessments. The Storyboard, similar to the Carpe Diem model by Gilly Salmon (Salmon *et al.,* 2020), helps the course team align online activities and corresponding assessments. The Course About Page informs learners on course duration, required time investment, structure, format and any pre-requisites.

Production Phase

Usually, within four months, the course team would have created the course content and uploaded it to the online platform. The LD works closely with the course team, ensuring the course content is aligned with the QA Standards. Two quality control steps are executed in this phase, the "reality check" after the first course unit has been created and the "beta test" to ensure the entire course meets the quality standards before being released.

Run Phase

After launch, the course is moderated to encourage learners' participation and to learn from each other, answer questions, give feedback, and keep participants informed as necessary. During the run phase, learners are asked to fill out two surveys: one at the beginning of the course, about their expectations, and one at the end of the course, about their experience.

Evaluation Phase

The evaluation phase is the final step in the QA process and serves as input for the improvement of a future run. In the evaluation meeting the course team, LD, QA officer and business manager analyse platform data and learner surveys. These are used as input for a course improvement plan and to revise course content and activities.

We have learned that by using this four-step process, quality is guaranteed throughout the course design and delivery. Through the systematic evaluation of courses, institutions ensure

[4] https://onlinelearninghub.tudelft.nl/plan/

the implementation of the QA cycle which is executed in the Plan – Do – Check – Act steps outlined in the Deming cycle[5].

CONTINUING PROFESSIONAL DEVELOPMENT

To guarantee excellence in our online courses, a key part of our strategy is providing continuous training for course teams on how best to design for online education and to engage learners effectively. ES does this in various ways, for example, via online and face-to-face courses and workshops; two of these are: Designing and Teaching an Online Course and Building and Moderating Extension School courses. Participants of the online training Designing and Teaching an Online Course are introduced to the OLE Tool and the Online Course Development Process and use the four phases to improve efficiency in design and project planning. Starting from an initial idea or topic, through different modules, asynchronous activities and synchronous sessions, course participants design a blueprint of their course, a storyboard, a learning sequence, a learning activity and a communication plan to implement in their own online course.

The training Building and Moderating ES courses is a self-paced, interactive course on the effective use of the online platform and on community management. Other ES trainings include scriptwriting, presenting in front of a camera, blending campus education, presenting, video making, copyright and licensing and more.

ES works collaboratively with Teaching and Learning Services[6] helping instructors acquire additional, practical skills for designing online courses. This supports their professionalisation as educators. A survey conducted in 2022 demonstrated how such skills can be transferred to (hybrid) campus education and benefit lecturers and students alike through improved teaching materials (especially videos and quizzes), and an increased availability of examples, enhancing the overall quality of teaching.

Potential Future Improvements

Notwithstanding the numerous steps taken toward establishing a quality culture within ES, we foresee more opportunities for improvements in QA. Future challenges include making the quality principles operational and measurable in our everyday tasks, whilst continuing to report on the results achieved.

Through future collaboration with other universities and experts in the field of online learning, we hope to continue improving the ES' educational offer to the benefit of learners. To this end, QA will play a pivotal role in ensuring the systematic application of rigorous monitoring and evaluation processes.

CONCLUSIONS AND LESSONS LEARNED

In summary, we advocate that adopting a holistic, bottom-up approach will help institutions establish a robust QA system. Our experience has shown that to maintain a pervasive quality culture, attention should be placed on improving existing QA practices and on collaboratively identifying gap areas. Developing a shared vision on quality was perceived as a tangible action to show commitment to continuous improvement. It ensures individual efforts are channelled in structured collaborative processes that see the active participation of multiple stakeholders. In contrast to quality compliance, QA should not be perceived as being

[5] https://deming.org/explore/pdsa/

[6] https://www.tudelft.nl/teaching-support

imposed from above, but rather be driven by individuals, who in this way develop a strong sense of ownership. At the same time, we recognise the importance of leadership's role in addressing quality issues. Management's commitment to quality is crucial in and must be clearly communicated through visible actions and the establishment of dedicated resources. Finally, in our experience, systematic guidance and support should be provided to instructors to ensure that the expected quality standards are rigorously applied and maintained in the delivery of online continuing education. Formal and informal trainings should also be offered to fulfil the professionalisation goals of instructors in the field of continuing education, which then reflect in improved material for campus education.

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THE ROLE OF UNIVERSITY CONTINUING EDUCATION IN EUROPE. THREE QUESTIONS TO JOOST KORTE

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Joost Korte graduated from the Faculty of Law at Utrecht University in 1983. Since then, he has held several directive positions at different European institutions, including Deputy Director-General of DG Enlargement (ELARG), Deputy Director-General of DG Agriculture and Rural Development (AGRI) responsible for Directorates C, D and E, and Deputy Director-General of DG TRADE responsible for Directorates E, F, G and H. In 2018 he became Director-General of DG Employment, social affairs and inclusion (DG EMPL).

Wieger Bakker: Why is university continuous education relevant for Europe and for the EU?

Joost Korte: Supporting a skilled and agile workforce is a priority for the Union. The issue of skills is high on the political agenda and is recognised as a key driver for the EU's competitiveness, strategic autonomy and prosperity. In this context, the European Year of Skills, which started on 9 May 2023 and will run until 8 May 2024, has as its main objective to promote a mindset of upskilling and reskilling.

University continuous education is equally as important as continuing vocational training in the context of the European Year of Skills to promote this shift in mindset, helping adults refresh, broaden and raise their skills levels. Universities have as their core mission to prepare and shape the labour force of tomorrow, helping address societal and economic challenges based on their experience with teaching as well as their research. This is why universities must be essential players in lifelong learning and skills development, which needs to become the norm.

The latest autumn economic forecast shows that our labour markets remain resilient, with an average unemployment rate in the EU of 6%, which is close to an all-time low. However, labour shortages persist in many sectors. University continuous education therefore plays an important role in tackling these labour market bottlenecks and supporting the green and digital transition of our economies.

The European Year of Skills raises awareness about the importance of upskilling and reskilling throughout professional careers, in line with the first principle of the European Pillar of Social Rights, whereby everyone has the right to quality and inclusive education, training and lifelong learning. University continuous education is essential in making this right a

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reality and to achieve the EU headline target of at least 60% of all adults participating in learning every year by 2030.

In order to reach this target, the European Social Fund Plus, which is the EU's main instrument for investing in people, is allocating EUR 15 billion towards adult skills development in the 2021-2027 programming period.

Wieger Bakker: In your opinion, what role should universities take up concerning UCE? What is your assignment for them?

Joost Korte: I invite universities to explore how they can actively contribute to the European Year of Skills and further promote a mindset of upskilling and reskilling. Not only through their regular programmes, but also through the development of short training courses that focus on skills that are relevant for the labour market and that can lead to micro-credentials, in line with the definition provided in the Council Recommendation on micro-credentials for lifelong learning and employability, adopted over a year ago in June 2022. eucen can serve as a platform for sharing best practices among its members.

In addition, eucen can support the implementation of the Upskilling Pathways Council Recommendation, which aims to help adults acquire a minimum level of literacy, numeracy and digital skills, or progress towards an upper secondary qualification. A recent evaluation of the recommendation showed only moderate progress in its implementation in EU Member States. In this context, eucen members have a deep-rooted expertise in seeking pedagogy, and in reaching out to those who are most in need of up- and reskilling. eucen can help forge partnerships with vocational education and training organisations, companies, civil society and with regional and local authorities to improve the effectiveness of programmes aimed at basic skills improvement.

The role of eucen in the Adult Learning Working Group, where we support countries in implementing the European Skills Agenda to help people acquire the skills they need throughout their lives, is highly valued. Networks like eucen continuously share innovative ideas and best practices. I encourage eucen to keep contributing to the many ongoing initiatives, and even explore new possibilities for creating a culture of learning and helping people develop the right skills.

Wieger Bakker: How does the EU support universities to fulfil this role?

Joost Korte: Continuous education is part of the many roles and missions of higher education institutions across Europe, as highlighted in the European strategy for universities of January 2022. The Council recommendation on micro-credentials provides a clear definition and European standards and guidelines to support universities and other providers in the development of micro-credentials for lifelong learning and employability purposes.

In addition, the EU supports the cooperation of universities with each other and with other stakeholders through funding and several initiatives aiming to equip people with skills throughout their lives. Fifty European Universities alliances, involving 430 higher education institutions and 1700 associated partners such as enterprises, regions, cities and NGOs, are paving the way for the transformation of higher education, and equipping students and lifelong learners with future-proof skills, supported through Erasmus Plus. During the 2021-2027 programming period, Erasmus+ will allocate around EUR 1.1 billion to the European Universities initiative. This means up to EUR 14.4 million available for each European Universities alliance over four years.

Many universities already participate in the 18 large-scale skills partnerships under the Pact for Skills, which is providing opportunities to approximately 10 million people to learn new skills. These partnerships can be funded each with EUR 4 billion from Erasmus+. I welcome the fact that eucen has signed up for the pact, and I invite your members to actively engage in large-scale and regional and local skills partnerships.

Another important role is linked to the Net-Zero Industry Academies: the development of these academies, to be established as part of the proposed Net-Zero Industry Act, will enhance skills for net-zero technologies by setting up dedicated training programmes. The European Academies for batteries, solar technologies, hydrogen, raw materials cybersecurity and the New Bauhaus Academy aim to design training material for learners in these strategic areas. The actual delivery of programmes will remain the responsibility of education and training institutions; universities will therefore be crucial partners.

University continuous education is at the core of the European Skills Agenda. eucen and the universities it represents are therefore crucial partners in our ambition to help people develop the skills they need in times of great societal changes. To conclude, I would like to thank eucen for its support as ambassadors in promoting the European Year of Skills.

Wieger Bakker: Thank you very much.

Enhancing impact through co-creation, collaboration and partnership

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