JYX
JYVÄSKYLÄN YLIOPISTO
UNIVERSITY OF JYVÄSKYLÄ

This is a self-archived version of an original article. This version may differ from the original in pagination and typographic details.

Author(s): Kärkkäinen, Katarzyna; Jääskelä, Päivikki; Tynjälä, Päivi

Title: How does university teachers' pedagogical training meet topical challenges raised by educational research? : A case study from Finland

Year: 2023

Version: Published version

Copyright: © 2023 The Authors. Published by Elsevier Ltd.

Rights: CC BY 4.0

Rights url: https://creativecommons.org/licenses/by/4.0/

Please cite the original version:

Kärkkäinen, K., Jääskelä, P., & Tynjälä, P. (2023). How does university teachers' pedagogical training meet topical challenges raised by educational research? : A case study from Finland. Teaching and Teacher Education, 128, Article 104088. https://doi.org/10.1016/j.tate.2023.104088

The University of Jyväskylä's Rights Retention Strategy (RRS) enables accepted versions (final drafts) to be made openly available through self-archiving. For more information, see: https://www.jyu.fi/en/rrs

Teaching and Teacher Education 128 (2023) 104088



Contents lists available at ScienceDirect

Teaching and Teacher Education

journal homepage: www.elsevier.com/locate/tate



Research paper

How does university teachers' pedagogical training meet topical challenges raised by educational research? A case study from Finland



Katarzyna Kärkkäinen [a, *], Päivikki Jääskelä [b], Päivi Tynjälä [b]

[a] Department of Language and Communication Studies Athenaeum, A-building Seminaarinkatu 15, PL 35, 40014 UNIVERSITY OF JYVÄSKYLÄ, Finland
[b] Finnish Institute for Educational Research Ruusupuisto, Alvar Aallon katu 9, PL 35, 40014 UNIVERSITY OF JYVÄSKYLÄ, Finland

HIGHLIGHTS

- The study presents an analytical model for examining university pedagogy courses.
- Literature review reflects the complexity of learning, which challenges university teaching and teachers' pedagogical training.
- The studied courses met to a varying degree the research themes in curriculum and practices.
- The study reveals inadequate alignment of pedagogical training with global, societal and labour market needs.
- The courses did not adequately address students' expertise development, well-being and utilise versatile learning environments.

ARTICLE INFO

Article history:
Received 9 June 2022
Received in revised form
24 February 2023
Accepted 28 February 2023

Keywords:
Pedagogical training
Higher education
Academics
Professional development
Curriculum design

ABSTRACT

Through a literature review, this study identified research themes related to university pedagogy and examined how these themes appear in the curricula of university pedagogy courses and in the experiences of the participants and trainers of these courses at a Finnish research university. The literature review produced a multidimensional model of the relationships between identified themes, which can be used as an analytical tool for examining pedagogical training. Analysis of the courses revealed a need to broaden the understanding of the course contents and practices and their alignment to global, societal, and labour-market needs.

© 2023 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

1. Introduction

Due to the Bologna Process, European universities have been giving increasing attention to the quality of university education and teaching. To follow the (inter)national strategic guidelines for higher education (HE) and respond to the diversification of student populations, many universities encourage their staff to upgrade their pedagogical skills. It is often necessary to undergo university pedagogical training to obtain a teaching position in academia (Aškerc & Kočar, 2015; Ödalen et al., 2019). Such training is considered important for many reasons. First, it facilitates teachers' pedagogical competence development to promote students' learning and provides them with tools to renew learning cultures (Hanbury, Prosser, & Rickinson, 2008; Weurlander & Stenfors-Hayes, 2008). Second, it promotes networking among teachers, which may facilitate the development of collaborative working cultures (Hargreaves & O'Connor, 2018). Third, if curricula meet global and societal needs, pedagogical training has the potential to affect societal development (Albareda-Tiana, Vidal-Raméntol, Pujol-Valls, & Fernández-Morilla, 2018; Barth & Rieckmann, 2012).

Fundamentally, university education is research based, and the development of study programmes is strongly associated with discipline-specific research (Cao, Postareff, Lindblom-Ylanne, & Toom, 2021; Elsen, Visser-Wijnveen, Van Der Rijst, & Van Driel, 2009). Thus, teaching is based on the latest disciplinary research. However, it is unclear whether teaching is grounded in educational research on teaching and learning and relevant educational issues examined from psychological, social science, and sociological perspectives. It is also unclear how university pedagogical training

* Corresponding author.
E-mail addresses: katarzyna.k.karkkainen@jyu.fi (K. Kärkkäinen), paivikki.jaaskela@jyu.fi (P. Jääskelä), paivi.tynjala@jyu.fi (P. Tynjälä).

https://doi.org/10.1016/j.tate.2023.104088
0742-051X/© 2023 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

provides needed preparation in this respect. Thus far, university pedagogical training has mainly been examined from the perspective of its impact on teachers' approaches to teaching, especially the student-centred approach (Gibbs & Coffey, 2004; Postareff, Lindblom-Ylänne, & Nevgi, 2008; Stes & Van Petegem, 2014; Ödalen et al., 2019). Individual studies on the construction of teachers' identities (Arvaja, 2018), reflection (Karm, 2010), and incorporation of technology into teaching (e.g., Keengwe, Georgina, & Wachira, 2010; Yilmaz et al., 2020) report on teacher development during training. There have also been attempts to specify content that is relevant to university pedagogy courses (Silander & Stigmar, 2021). However, there is still a need for more rigorous analyses both on the theoretical and empirical level; that is, research that provides comprehensive theoretical understanding of the relevant aspects related to these courses and systematically examines the contents and practices through these theoretical findings.

The purpose of this study is to fill these gaps by constructing a multidimensional research-based analytical frame for examining university teachers' pedagogical training and to investigate, through a case study, how university teachers' pedagogical training corresponds with the challenges emerging from current educational research. Thus, we approach the task by analysing both the relevant literature and the curricula documents and the experiences of trainers and course participants. The study is guided by the following research questions.

RQ1. What kind of themes related to university pedagogy emerge from educational research?

RQ2. How do the research themes identified in the literature review (RQ1) appear in the written curricula of university pedagogical courses?

RQ3. How do the research themes identified (RQ1) emerge in the experiences of the participants and trainers of university pedagogical courses?

2. Materials and methodology

2.1. Procedures of the literature review

This study started by identifying research lines in educational research, which included psychologically and social science-oriented research. As the research area is extensive, a systematic review was not possible. Therefore, we started with a report by Toom and Pyhältö (2020), which examined competences needed in university teaching. From this study we adopted four initial themes, which were elaborated in further analysis. Supplementary literature was found through the snowball method (Jalali & Wohlin, 2012), which was applied to literature references of well-known scholars. The analysis applied features of thematic analysis (Braun & Clarke, 2006) and abductive reasoning (Thompson, 2022). Thus, initial main themes were based on previous theoretical structuring, whereas new themes and sub-themes were developed from the data. During the analysis, the themes were elaborated until final formulations were reached. At the beginning of the analysis, we identified themes that inform either the contents or practices of the pedagogical training. As these sets of themes showed many similarities, we finally created one set of themes against which we analysed both contents and practices as presented in curricula and experienced in the implementation of the courses by trainers and participants. Table 1 illustrates the construction of the themes during the literature review process. A total of more than 300 research publications (mostly articles but also monographs) constituted the data base (supplementary file).

2.2. Empirical study on pedagogical training

The empirical study part of this study can be described as a case study, as it examines in-depth university pedagogy courses in one mid-sized multidisciplinary Finnish research university using a variety of data sources (Yin, 2014). The university has seven faculties, approximately 2500 employees, and 15,000 students. Although the differences between universities within some Western countries are relatively big, this is not the case in Finland as the Finnish education system, including HE, reflects policies of equal educational opportunities for all (Välimaa, 2012). There are two types of HE institutions in Finland: research-based traditional universities (14) and universities of applied sciences (25), the latter of which provide more practice-based education. Both offer their staff opportunities to update their pedagogical knowledge through formal university pedagogy courses, short training courses, and network project activities.

The case study university offers the following university pedagogical courses to its staff: University Pedagogy I (UP1, 10 credit points according to European Credit Transfer System, ECTS), University Pedagogy II (UP2, 15 ECTS), Adult Educator's Pedagogical Studies (AEPS, 35 ECTS), and Teaching Academic Contents through English (TACE, 15 ECTS). UP1 is mandatory for permanent staff and must be completed within two years of gaining a position. TACE was introduced in response to the emergence of numerous international programmes, the diversification of the student population and need to support development of teachers' skills in this area.

The courses are based on or employ the experiential learning approach (Kolb, 1984; Malinen, 2000; Mezirow, 2000). The overall aim across the courses, as stated in the course description, is to help participants become reflective and autonomous educators by developing their personal, reflective, and analytical relationships with teaching and guidance in the university context.

2.2.1. Data and analysis

The data consist of the written curricula of the pedagogical courses and group interviews ($n = 9$) with the trainers and participants ($n = 30$) of all four courses. The interviews considered the interviewees' perceptions and experiences of the pedagogical approach (es) behind the courses; the perceived aims, contents, practices, and learning environments utilised in the courses; and the perceived relevance of the courses regarding teaching in HE and society. At the end of the interviews, the list of themes identified from the literature (Table 2) was presented to the interviewees, and they were asked to comment on the presence of these in and their relevance to the courses. The interviews were recorded and transcribed verbatim.

Analysis was performed by tabulating the prevalence of the themes that emerged from the curricula and interviews based on the themes identified from the literature. First, the curricula of the courses (course contents, objectives, and practices) were analysed in relation to the themes identified from the literature (Table 2) by examining the presence of said themes and sub-themes in the curricula. Second, the interview data were also analysed in terms of the participants' and trainers' perceptions regarding the relevance of the themes (Table 2) to pedagogical training. The unit of analysis was one or more sentences representing a speaking turn of a single person or a conversation between the interviewees on a certain theme. Third, the results of the analysis of the curricula were examined against those of the analysis of the interviews.

All three authors participated in gathering the data (searching for literature and interviewing) and analysing it, as well as interpreting and reporting the results. The second and third authors acted as critical reviewers and parallel analysers by going through

Table 1
Thematic analysis of literature.

Theme 4: Support of well-being and learning	
Examples of research by topics	Sub-themes
• Students' well-being (Toom & Pyhältö, 2020) • Holistic approaches, which consider the complexity of learning (Jääskelä & Nissilä, 2015) • Meaningfulness of teaching and studying based on collaboration and dialogue (Riivari, Malin, Jääskelä, & Lukkari, 2020) • The importance of emotions in learning and well-being (Hökkä, Vähäsantanen, & Paloniemi, 2020; Pekrun & Linnenbrink-Garcia, 2014) • Job demands, job resources, emotional exhaustion, work engagement, and teacher efficacy and well-being (Han, Yin, Wang, & Bai, 2020) • Students' and teachers' perceptions of well-being, and the interaction between students' and teachers' well-being (Kiltz, Rinas, Daumiller, Fokkens-Bruinsma, & Jansen, 2020)	Overall well-being of students and teachers
• Stress, anxiety, and depression among university students (Backhaus et al., 2020; Krumrie, Newton, & Kim, 2010; Räsänen, Lappalainen, Muotka, Tolvanen, & Lappalainen, 2016; Regehr, Glancy, & Pitts, 2013) • Study burnout (Asikainen, Salmela-Aro, Parpala, & Katajavuori, 2020; Rönkkönen, Mattsson, Virtanen, Pyhältö, & Inkinen, 2022: Yin, Toom, & Parpala, 2022) • Psychological flexibility and burnout at work (Puolakanaho, Tolvanen, Kinnunen, & Lappalainen, 2018) and specifically among university teachers (Lackritz, 2004) • Workplace stress (Flaxman, Bond, & Livheim, 2013) • Low work–life balance of university teachers (Kinman & Jones, 2008) • Non-appreciation of university teachers' work, workload, and negative emotions (Hökkä et al., 2020; Ursin, Vähäsantanen, McAlpine, & Hökkä, 2020)	Overload and/vs. flexibility
• Diversification of pedagogical approaches (Haggis, 2004; Kärkkäinen, 2017) • Interventions based on cognitive, behavioural, and mindfulness practices (Regehr et al., 2013) • Resilience and support of psychological flexibility, such as through acceptance and commitment therapy (Frögeli, Djordjevic, Rudman, Livheim, & Gustavsson, 2015; Katajavuori, Vehkalahti, & Asikainen, 2021; Räsänen et al., 2016) • Online interventions (e.g., ACT therapy-based) (Levin, Pistorello, Seeley, & Hayes, 2014; Räsänen et al., 2016) • Mindfulness, acceptance, and values-related skills to ease work burnout (Flaxman et al., 2013; Puolakanaho et al., 2018) • Students' perceptions of learning environments and efficacy beliefs, motivation (Meriläinen, 2014) • Accessibility, accessibility, equality, inclusion (Lehto, Huhta, & Huuhka, 2019) • Participation, engagement, and students' sense of community and belonging (Ahn & Davis, 2020; Cicognani et al., 2008; van Gijn-Grosvenor & Huisman, 2020) • Positive learning atmosphere (Hökkä et al., 2020; Pekrun & Linenbrink-Garcia, 2014) • Meaningful learning experiences (Kostiainen et al., 2018) • Equal participation (Lipponen & Kumpulainen, 2011) and safe learning relations (Juutilainen, Metsäpelto, & Poikkeus, 2018) • Personalised support for students (Jääskelä, Heilala, Kärkkäinen, & Häkkinen, 2021) • Promotion of students' resilience (Frögeli et al., 2015; Räsänen et al., 2016; Regehr et al., 2013) • Supporting students' engagement through personal and group guidance practices (personal plans, peer tutoring) (Hanson, Trolian, Paulsen, & Pascarella, 2016; Klemola, Ikäheimo, & Hämäläinen, 2020; Korhonen, 2017; Lane, 2020) • Peer-group mentoring and teachers' professional development (Heikkinen, Jokinen, & Tynjälä, 2012; Martin et al., 202; Skaniakos & Piirainen, 2019; Tynjälä, Pennanen, Markkanen, & Heikkinen, 2021) • Employees' mindfulness and values-guided behavioural skills (Flaxman et al., 2013; Puolakanaho et al., 2018) • Incentives, appreciation, and management support and resources to university teachers' work satisfaction (Jääskelä, Häkkinen, & Rasku-Puttonen, 2017a)	Promoting students' and teachers' well-being: good practices

Table 2
Research lines related to university education and pedagogy.

Theme	Sub-themes
1. Development of integrative, multidimensional and responsible expertise	Progressive and collaborative problem solving; deliberate practice; integrative pedagogy (integration of theory and practice); reflectivity and wisdom; agency and professional identity; ethics, responsibility, and sustainability; generic skills
2. Learning theories, approaches to learning and teaching, and teacher beliefs	Learning theories; practices promoting active and interactive learning; versatile teaching, learning and assessment methods; reflectivity in learning; personal learning goals; student-centred guidance practices; teacher beliefs
3. Integration of versatile learning environments	Integration of technology into teaching and learning; integration of work, extra-curricular activities, and community engagement with theoretical education; learning ecologies and ecosystems
4. Well-being as a part of learning	Knowledge, methods, and practices related to the promotion of the well-being of students and teachers; supportive atmosphere; participatory forms of studying and working; flexible and meaningful study directions
5. Collaborative aspects in learning, teaching, and broader work of teachers	Working together; networking activities; sharing of knowledge, experiences and good practices; dialogue and peer support; innovative knowledge communities and collaborative work culture
6. Internationalisation and interculturality	Interculturality in education and employment; linguistic and cultural sustainability; diversity; content and language-integrated learning (CLIL) and other multilingual methods; inclusion, equality, and equity
7. Pedagogical leadership	Leading curriculum work and the development of pedagogy; supporting a positive and collaborative work and teaching culture; involving participants and listening to their needs
8. Curriculum work and development of teaching	Different curriculum models (e.g., connective, competence-based, and problem-based); constructive alignment; agency in the continuous development of teaching
9. Global, societal, and labour-market needs	Future competences and supporting students' employability; sustainable development and learning; digitalisation and globalisation; continuous learning and development; collaboration with workplaces

the data independently and making suggestions for revisions and interpretations until agreement among the authors was reached.

3. Results on the research lines and related themes

Based on the literature review, nine main themes related to university pedagogy were identified, each including several sub-themes. The themes and their sub-themes are presented in Table 2. Next we condense the contents of the themes and finally outline the relationships between the themes.

3.1. Development of integrative, multidimensional, and responsible expertise

To support students' learning and growth towards professionalism, it is important for teachers to understand the diverse nature of professional expertise (Engeström, 2004; Hakkarainen et al., 2004; Harteis & Billett, 2013; Kinsella & Pitman, 2012; Tynjälä, 2009; Winch, 2010) and the ways of supporting its development in an ever-changing world (Barnett, 2012; Barnett & Jackson, 2019; Tynjälä, Heikkinen, & Kallio, 2022). The core of expertise is diversified know-how and progressive problem solving, which lead to reformulating and rethinking tasks and problems at new and more complex levels (Bereiter & Scardamalia, 1993). Subsequent research has also emphasised the relevance of agency (Collin et al., 2017; Eteläpelto et al., 2013; Goller & Paloniemi, 2017; Jääskelä et al., 2020), generic skills (Badcock, Pattison, & Harris, 2010; Binkley et al., 2012; Häkkinen et al., 2017; Jääskelä, Nykänen, & Tynjälä, 2018; Kember, Leung, & Ma, 2007; Tremblay, Lalancette, & Roseveare, 2012; Virtanen & Tynjälä, 2019), and wisdom (Ardelt, 2020; Grossman, 2017; Huynh & Grossmann, 2020; Kristjánsson, Fowers, Darnell, & Pollard, 2021; Sternberg & Glück, 2021) as important elements of expertise for both adapting to changes in work and creating new practices.

To develop expertise during HE, the following aspects need critical attention: 1) the integration of different forms of knowledge (Bereiter, 2002; Billett, 2015; Orozco, Gijbels, & Timmerman, 2019, 2021; Tynjälä, 2009; Tynjälä, Kallio, & Heikkinen, 2020; Winch, 2010); 2) the integration of work and learning (Billett, 2015; Guile & Griffiths, 2001; Tynjälä, Heikkinen, & Kallio, 2022); 3) the implementation of deliberate practice (Ericsson, 2006); 4) the assessment and reflection of agency as a part of learning (Heilala et al., 2022; Saarela, Heilala, Jääskelä, Rantakaulio, & Kärkkäinen, 2021); 5) active learning, which includes collaborative problem solving (Häkkinen et al., 2017), integrative thinking (Kallio, 2011, 2020), and responsible ethical action and interaction (Grossmann, 2017; Huynh & Grossmann, 2020; Kristjánsson et al., 2021; Tynjälä, Kallio, & Heikkinen, 2020); 6) the utilisation of guidance and feedback as integral parts of learning (Billett, 2015; Ericsson, 2006); and 7) the consideration of emotions in learning (Hökkä et al., 2020; Pekrun & Linnenbrink-Garcia, 2014; Postareff & Lindblom-Ylänne, 2011).

Growth towards expertise includes identity formation, which mainly occurs in relation to others (Cohen, 2010; Rodgers & Scott, 2008) and involves constantly (re)interpreting and making sense of various experiences and perspectives (Beijaard, Meijer, & Verloop, 2004). Self-reflection facilitated with a learning diary (Arvaja, 2016), creative writing (Martin, Tarnanen, & Tynjälä, 2021), and dialogue with others have been found to facilitate the understanding of one's beliefs and the examination of routine practices (Arvaja & Sarja, 2020; Scott, 2016). Moreover, tacit knowledge and intuition are acknowledged components of professional expertise (Eraut, 2004; Harteis & Billett, 2013; Toom & Husu, 2020). In the context of new societal challenges, scholars (Friman et al., 2018; Howlett, Ferreira, & Blomfield, 2016; Tynjälä, Kallio, & Heikkinen, 2020) have emphasised the need to foster the development of wise, responsible, and ethical experts capable of leading sustainable social innovations and practices.

3.2. Learning theories, approaches to learning and teaching, and teacher beliefs

To develop their teaching skills, it is important for university teachers to possess knowledge about learning theories. In the HE context, there is an emphasis on student-centred, constructivist approaches. The areas found to be important are the promotion of active learning through problem solving, dialogue and collaboration, integration of theory and practice, experiences of strong agency, capacity for lifelong learning, and versatile teaching and assessment methods (Boud, 2000; Jääskelä et al., 2020; Kember et al., 2007; Pereira et al., 2016; Tangney, 2014; Virtanen & Tynjälä, 2019). Students' self-regulation (Hadwin, Järvelä, & Miller, 2018; Pintrich & Zusho, 2007) and assessment of agency (Jääskelä et al., 2021) are emphasised as useful methods for developing learning skills and fostering personal learning.

A considerable amount of research on university students' approaches to learning (since Marton & Säljö, 1976; e.g., Biggs, 1993; Entwistle, 1991; Lindblom-Ylänne, Parpala, & Postareff, 2004) provides an understanding of students' various intentions, motives, and learning strategies. Empirical studies have identified several approaches to learning, such as deep, surface (Marton & Säljö, 1976), achieving/strategic (Entwistle & McCune, 2004), and non-academic/apathetic approaches (Tait & Entwistle, 1996). These have been analysed, for example, in relation to discipline (Nelson Laird, Shoup, Kuh, & Schwarz, 2008), students' competence development (Tuononen, Parpala, & Lindblom-Ylänne, 2020), variations within an approach (Lindblom-Ylänne, Parpala, & Postareff, 2019), and factors contributing to the adoption of a deep approach (Baeten, Kyndt, Struyven, & Dochy, 2010).

A large amount of research has also been published on teachers' approaches to teaching (since Trigwell & Prosser, 1993; e.g., Gibbs & Coffey, 2004; Kálmán, Tynjälä, & Skaniakos, 2020; Lindblom-Ylänne, Trigwell, Nevgi, & Ashwin, 2006). Trigwell and Prosser (2004) identified student-focused (conceptual change based on supporting active learning) and teacher-focused (information transmission with little interaction with students) approaches, which have been elaborated on in subsequent studies, for example, in relation to the discipline and teaching context (Lindblom-Ylänne et al., 2006), students' approaches to learning (Uiboleht, Karm, & Postareff, 2019), and patterns of professional development and departmental culture (Kálmán et al., 2020). Further, research on teachers' beliefs (Gow & Kember, 1993; Kim, Kim, Lee, Spector, & DeMeester, 2013; Nespor, 1987; Norton, Richardson, Hartley, Newstead, & Mayes, 2005; Pajares, 1992) offers tools for teacher training to reflect on one's pedagogical values and develop pedagogical thinking. Recent research has analysed teacher beliefs regarding collaborative learning (De Hei, Strijbos, Sjoer, & Admiraal, 2015), assessment practices (Kinay, 2018), and the use of technology (Jääskelä, Häkkinen, & Rasku-Puttonen, 2017b), for example. Changes in beliefs have been reported among teachers who actively developed their courses on a long-term basis (Popova, Kraft, Harshman, & Stains, 2021) and evaluated their beliefs with their colleagues (Ertmer & Ottenbreit-Leftwich, 2010; Scott, 2016).

3.3. Integration of versatile learning environments

Learning in modern societies has been described as ubiquitous (Cárdenas-Robledo & Peña-Ayala, 2018; Marin et al., 2016). Professional development cannot be reached by limiting learning to traditional classroom settings. Digitalisation in particular has

changed the nature of learning environments. Several research strands, including computer-supported collaborative learning (Cress, Rosé, Wise, & Oshima, 2021; Dillenbourg, Järvelä, & Fischer, 2009; Häkkinen & Hämäläinen, 2012; Kobbe et al., 2007; Muñoz-Carril, Hernández-Sellés, Fuentes-Abeledo, & González-Sanmamed, 2021; Stahl & Hakkarainen, 2021), teachers' beliefs on technology-supported teaching and learning (Heinonen, Jääskelä, Häkkinen, Isomäki, & Hämäläinen, 2019; Jääskelä et al., 2017b), pedagogic design principles of digital environments (Engeness, 2021), and learning analytics (Ferguson, 2012; Saarela et al., 2021; Viberg, Hatakka, Bälter, & Mavroudi, 2018) indicate that the digitalisation and utilisation of technology in HE creates many possibilities for and challenges to learning, teaching, and the professional development of teachers.

There is also widening discussion on the interdependence of learning environments in terms of learning ecologies and ecosystems (Barnett & Jackson, 2019; Mahon, Heikkinen, & Huttunen, 2019). Beyond digital ecosystems, recent learning theories have extended from pure classroom learning to wider learning in life (Harris & Chisholm, 2011), and the integration of work-related and work-based learning into university studies (Billett, 2015; Kyndt et al., 2022; Tynjälä & Gijbels, 2012; Tynjälä, Heikkinen, & Kallio, 2022; Tynjälä, Beauseart, Zitter, & Kyndt, 2022). Using workplaces as learning environments provides opportunities for the development of active agency, responsible professional expertise, and generic skills by combining practice-based experiences with theoretical study (Billett, 2015; Kyndt et al., 2022).

3.4. Well-being as part of learning

In the context of increased psychological problems (e.g., depression, stress, burnout) among university students (Asikainen et al., 2020; Krumrie et al., 2010; Räsänen et al., 2016), holistic approaches to learning and teaching, which emphasise the complexity of learning, students' agency, and their overall well-being are important (Jääskelä & Nissilä, 2015). The diversification of pedagogical approaches and the recognition of the complexities of learning have been shown to support students' learning, academic progress, and well-being, independent of students' backgrounds and challenges (Haggis, 2004; Author, 2017). A positive learning atmosphere and emotions have proven important for learning and well-being (Hökkä et al., 2020; Pekrun & Linenbrink-Garcia, 2014). Course designs that provide meaningful learning experiences (Kostiainen et al., 2018), equal participatory structures (Lipponen & Kumpulainen, 2011), safe learning relations (Juutilainen et al., 2018), and personalised support to students (Heilala et al., 2022; Jääskelä et al., 2021) may strengthen students' agency and well-being.

Students' well-being has also been supported by promoting their resilience and reducing their psychological distress (Frögeli et al., 2015; Räsänen et al., 2016; Regehr et al., 2013). Guidance practices, such as peer tutoring and personal study plans, are vital for students' engagement and well-being (Hanson et al., 2016; Lane, 2020; Pyhältö, Toom, Stubb, & Lonka, 2012). Pedagogical choices seem to be linked to both students' and teachers' well-being. For example, dialogue, collaboration, and idea sharing facilitate student learning, and teachers experience these methods as meaningful and enjoyable (Riivari et al., 2020). Certain initiatives have focused on improving teachers' overall well-being, including peer-group mentoring (Heikkinen et al., 2012; Skaniakos & Piirainen, 2019; Tynjälä et al., 2021), creative writing (Martin et al., 2021), and those promoting mindfulness and values-guided behavioural skills (Flaxman et al., 2013; Puolakanaho et al., 2018). Moreover, improving teachers' work circumstances through incentives, appreciation, peer and management support, or time-management increases their motivation to develop their teaching and contributes to well-being (Jääskelä et al., 2017a).

3.5. Collaborative aspects in learning, teaching, and broader work of teachers

The positive impacts of collaboration, sharing, and participatory approaches on students' learning and teachers' work have been recognised in HE education research (Riivari et al., 2020). For example, working together and diverse forms of assessment—including peer assessment, reflection, and feedback support learning (Virtanen & Tynjälä, 2019). Networking and peer support, and their benefits to teachers' professional development, are also appreciated (Alpay & Verschoor, 2014; Jääskelä et al., 2017a; Skaniakos & Piirainen, 2019; Stenfors-Hayes, Weurlander, Owe Dahlgren, & Hult, 2010; Stigmar, 2008). Peer-group mentoring has been found to be beneficial to mentees, mentors, and the whole work community (Geeraerts et al., 2015; Heikkinen et al., 2012; Tynjälä et al., 2021). Critical dialogue has been found to be useful for overcoming various beliefs about learning and teaching (Arvaja & Sarja, 2020; Jääskelä et al., 2017b; Scott, 2016). These practices are an important base for the networked expertise needed in a knowledge society (Hakkarainen et al., 2004). In this context, learning can be seen as a process of the co-creation of knowledge, which happens through the negotiation and collaborative development of practices (Paavola et al., 2004). In a university context, this also involves collaboration across departments and subjects, for example in curriculum work (Jalkanen, 2015). These new types of collaboration have been recognised as related to changes in teachers' professional identity (Zappa-Hollman, 2018).

3.6. Internationalisation and interculturality

Demographic changes in student populations caused by globalisation have led to discussions about equal participation in HE, students' success across the education system, interactions in intercultural and multilingual spaces, treatment of diverse groups of students and international students, and the need for changes in university teachers' work (Dervin & Layne, 2013; Griga & Hadjar, 2014; Lahti, 2015; Zappa-Hollman, 2018). Students' communication and interaction skills must be developed for them to participate in a multilingual and multicultural world (Jalkanen & Nikula, 2020). This requires the professional development of teachers, collaboration between language and subject teachers (Jalkanen & Nikula, 2020), new practices for recognising international students' skills and needs, and new types of support and guidance (Kärkkäinen, 2017). A diversification of pedagogical approaches, revitalisation and sustaining of students' cultures and linguistic backgrounds (Chavez & Longerbeam, 2016), as well as recognition of the specifics of learning and teaching through English as a second language (Wilkinson, 2018) are crucial for effective learning in international HE settings. Specifically, bilingual education methodologies, including CLIL, have been found to offer advantages for both students and teachers (Crossman, 2018; Schmidt-Unterberger, 2018). Although learning and teaching in such settings have been recognised as demanding, they have also been experienced as rewarding and as a source of personal and professional development (Kärkkäinen, 2017).

3.7. Pedagogical leadership

Supportive pedagogical leadership and an understanding of pedagogical processes are needed to facilitate work cultures that contribute to the improvement of teaching (Alpay & Verschoor, 2014; Jääskelä et al., 2017a; Nevgi & Korhonen, 2016; Soini,

Pietarinen, & Pyhältö, 2016) and curriculum work (Annala & Mäkinen, 2013). It has been highlighted by scholars (Antinluoma, Ilomäki, Lahti-Nuuttila, & Toom, 2018; Jäppinen & Ciussi, 2013) that distributed and collaborative leadership contributes to the quality of teaching and learning as well as to teachers' well-being and innovation. The aim is to move from professional collaboration towards collaborative professionalism that involves collaboration 'by design,' deep dialogue, and the engagement of the entire educational institution (Hargreaves & O'Connor, 2018). Teachers are also expected to contribute to the broader development of the degree programmes of their disciplines (Brown, 2013), and pedagogical leadership skills are prominent in this context. The programme-level development may involve, for instance, constructing seamless learning environments and meaningful learning processes for students (Marin et al., 2016), or various forms of social engagement (e.g., community service) as a part of education (Bekele & Ofoyuru, 2021; Kumpulainen, Vierimaa, & Koskinen-Koivisto, 2019).

3.8. Curriculum work and development of teaching

Curricula can be seen as a manifestation of educational development, wherein teachers play a pivotal role (Annala, Mäkinen, Lindén, & Henriksson, 2021). Curricula are linked to efficient learning and response to global concerns such as climate change and trends such as digitalisation, internationalisation, and sustainability (Barnett & Coate, 2005; Caniglia et al., 2018; Coskun, 2015; Fahey, 2012; Friman et al., 2018; Jalkanen & Nikula, 2020; Khan & Law, 2015; Kornelakis & Petrakaki, 2020). Thus, it matters how teachers (are able to) contribute to this work and what kind of knowledge and skills they acquire for curriculum work through training.

Several studies provide tools and concepts for curriculum work that are worth exploring during pedagogical training. For instance, the concept of constructive alignment highlights that the objectives stated in the curriculum and the chosen methods and assessment strategies should be in-line with each other (Biggs, 1993). Curricula models—such as competence-, phenomenon-, problem-based and connective approaches are available for curriculum work (Fung, 2016, 2017; Kumpulainen et al., 2019; Lonka, 2018; Poikela & Moore, 2011; Young & Perović, 2016). Additionally, there are many ways to organise curriculum work (Brown, 2013; Honkimäki, Jääskelä, Kratochvil, & Tynjälä, 2022). Several studies (Honkimäki et al., 2022; Walkington, 2002) suggest approaching curricula development from both top-down and bottom-up perspectives while balancing between staff agency and existing structures. Further, it is crucial to recognise different academic cultures associated with curriculum work (Hargreaves & Fullan, 2012; Kálmán et al., 2020).

Teachers are expected to continuously develop their teaching (Jääskelä et al., 2017a; Mårtensson, Roxå, & Olsson, 2011), and several studies report on the factors supporting that development. For instance, authentic development (i.e., responding to the real challenges experienced when teaching), combined with the managerial support and collaboration with other teachers, has been found to be linked with teachers' affirmative experiences and purposeful outcomes of teaching development (Alpay & Verschoor, 2014; Jääskelä et al., 2017a; Stenfors-Hayes et al., 2010; Stigmar, 2008).

3.9. Global, societal, and labour-market needs

As well as globalisation and internationalisation, digitalisation and sustainable development represent other megatrends that impact HE and pedagogical training. Digitalisation calls for the incorporation of new technologies in teaching and learning (Anderson, 2020; Coskun, 2015; Tømte, Fossland, Aamodt, & Degn, 2019). Although the utilisation of technology has the potential to support learning and teachers are encouraged to use it in their teaching, making the most of technologies is not easy and may require changes in beliefs and the further professional development of teachers (Heinonen et al., 2019; Jääskelä et al., 2017b).

Sustainability topics are rapidly emerging in educational settings (Owens, 2017; Stough, Ceulemans, & Cappuyns, 2021), prompting various responses, including changes to curricula and pedagogical practices (Howlett et al., 2016). Initiatives have also incorporated these topics into university pedagogical training (Mader, Benayas, & Michelsen, 2017). The integration of these aspects into curricula has been described as a long process that involves stages of awakening, pioneering, and transformation into a sustainable university (Kapitulčinová, Atkisson, Perdue, & Will, 2018).

Future competences and supporting students' employability is also a growing concern in HE. This requires the alignment of university education with current and future professional life conditions and demands. Therefore, collaboration with workplaces is important in the university context (Billett, 2015; Kyndt, Beauseart, & Zitter, 2022; Tynjälä, Heikkinen, & Kallio, 2022; Tynjälä, Virolainen, Heikkinen, & Virtanen, 2020). Authentic environments, especially in the form of multidisciplinary projects, problem-based learning, work-based learning, and service learning have the potential to address these societal demands (Kalsoom & Khanam, 2017; Tynjälä, Kallio, & Heikkinen, 2020). Simultaneously, they require teachers' continuous learning and professional development.

3.10. Relationships between the themes: a conceptual model

Further examination of the research themes showed that they can be seen as forming a conceptual system where each theme is related to others. As shown in Fig. 1, the themes *Internationalisation and interculturalisation* and *Global, social, and labour-market needs* form a wider area that can be called *Global megatrends*. These megatrends shape the nature of professional expertise needed in the fast-changing globalised world. The development of integrative, multidimensional, and responsible expertise especially is required to meet the global challenges. That is further reflected in *Management of education. Learning and teaching* is at the core of university pedagogy, and it is shaped by all aforementioned aspects, particularly on the concrete level, by *Pedagogical leadership and Curriculum work*.

4. Results on the presence of identified themes in university pedagogical courses

Table 3 shows the presence of the research themes in the courses and whether these were mentioned as curricular content (c) or realised on the level of practices (p) (e.g., the methods used). Some themes were not explicated in the curricula documents but their presence in the courses arose during interviews. The table also shows the extent to which the themes were present in the curriculum and/or course practices. For example, the theme of learning theories was largely realised in all courses. In contrast, themes about well-being and global and labour-market needs were considered in limited manner. In the following sections, we elaborate our findings according to the main themes. As UP2's participants had earlier participated in UP1, they often reflected on their experiences without distinguishing between the courses. The courses were partially taught by the same trainers and utilised the same principles and practices. Therefore, we combined these

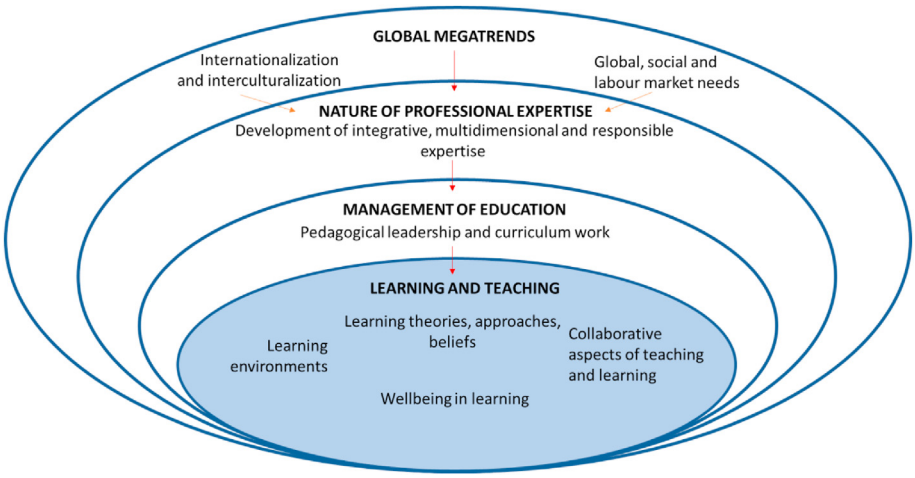


Fig. 1. Relationships between the identified themes related to university pedagogy.

Table 3
Presence of the themes identified from the literature in university pedagogy courses (c = content; p = practices).

MAIN THEMES	DATA SOURCE	UP1-2		TACE		AEPS	
		c	p	c	p	c	p
1. Development of integrative, multidimensional, and responsible expertise	Curricula	x	xx	xx	xx	xx	xx
	Interviews	xx	xx	xx	xxx	xx	xxx
2. Learning theories, approaches to learning and teaching, and teacher beliefs	Curricula	xx	xx	xx	xx	xxx	xx
	Interviews	xx	xx	xx	xx	xxx	xx
3. Integration of versatile learning environments	Curricula	–	x	x	xx	x	x
	Interviews	x	xx	xx	xx	xx	xx
4. Well-being as a part of learning	Curricula	x	x	x	x	x	x
	Interviews	x	x	x	xx	x	xx
5. Collaborative aspects in learning, teaching, and broader work of teachers	Curricula	x	xxx	x	xx	x	xxx
	Interviews	x	xxx	–	xxx	x	xxx
6. Internationalisation and interculturality	Curricula	x	x	xxx	xx	x	x
	Interviews	x	x	xxx	xx	x	x
7. Pedagogical leadership	Curricula	x	x	–	x	x	x
	Interviews	x	x	–	xx	x	xx
8. Curriculum work and development of teaching	Curricula	xx	x	x	x	x	x
	Interviews	x	x	–	xx	–	x
9. Global, societal, and labour-market needs	Curricula	x	x	x	x	x	x
	Interviews	x	x	x	x	x	x

Note. xxx = realised to a large extent; xx = realised to some extent; x = considered in a limited way; - = not considered.

courses in the analysis. When necessary, the course being referring to (UP1 or UP2) is specified.

4.1. Development of integrative, multidimensional, and responsible expertise

Analysis of the curricula indicated that certain sub-themes were considered in all four courses from the perspective of teacher development. This was visible on the level of course contents, objectives, and practices. It was evident that all courses focused on contributing to the development of the participants' philosophical bases for teaching through reflection on one's own work in interaction with others and considering theoretical insights.

Analysis of the interviews confirmed that all courses helped participants gain confidence as university teachers and built a strong teacher identity. TACE especially contributed to English-medium education (EME) teacher identity development. The UP1-2 and AEPS courses were found to promote participants' personal growth. The interviews showed that all courses significantly contributed to the development of individual professional agency, a vital component of expertise; the development of collective agency among the teachers was not a focus of the courses.

A crucial element in the development of professional expertise, connecting theory and practice, was stated in all course curricula, and was built into course practices through teaching try-outs. The trainers and participants from all the courses underlined the benefits of try-outs for their professional development. Although the development of academic expertise by students is at the core of university education, content explicitly related to the nature and development of such expertise was missing from the course curricula. Thus, the problem-solving-centred, integrative, collaborative, and networked nature of expertise with generic skills, strong agency, and the pursuit of responsible, wisdom-based professional practices were not explicitly included in the curricula documents (all courses). However, some topics on the development of expertise such as involving students in active, reflective, and collaborative learning and providing them with guidance and feedback were included in the learning theories (theme 2) and present in all courses.

These findings were confirmed during the interviews, where participants acknowledged understanding the nature and development of expertise as being important for university teachers, and noted, for example by TACE trainers, that this theme was missing from the pedagogical courses and was discussed only occasionally,

if at all, in training sessions. This shortcoming was discussed when participants commented on the list presented in Table 2:

> Progressive problem solving: this is something that some students have, and they come from AMK [University of Applied Sciences]. I have wondered why we don't have more of this in our curricula. (P8)

> I am interested in expertise and its development, mainly because we are educating experts at this university; so, in a way, what kind of teaching should we give so that we can promote development of students' thinking? (P11)

4.2. Learning theories, approaches to learning and teaching, and teacher beliefs

Student-centredness was at the core of all courses, including the content and practice. Learning and guidance theories represented the main content emphasised in the UP1, UP2, and AEPS courses. All courses included diverse modes of working, assessment methods, and continuous feedback, including reflection and learning in dialogue and interaction with others. In the curricula of UP1, UP2, and AEPS, it was made explicit that these courses aim to develop an inquiry-based attitude towards one's work.

The importance of student-centred approaches was also emphasised in all interviews. However, adopting these approaches was not easy:

> For us [our field], this is important. We need to be braver in […] being more facilitators of learning than transferors of knowledge. (P8)

At the same, the UP1 and UP2 participants expressed their desire for broadening perspectives on learning theories, approaches to learning and teaching, and the working methods used in the courses. Additionally, some of the UP1 and AEPS course participants with extensive teaching experience felt that the courses did not fully correspond to the reality and complete range of university teachers' work:

> [We should deal with] the diverse situations the teachers are involved in. Now the focus is only on one type of perspective, grouping and facilitating students, as if it would suit all situations […]. But this is only one dimension of university teaching, and used more in guidance practices than mass lecturing. (P3)

4.3. Integration of versatile learning environments

This broad topic related to versatile learning environments, and their possibilities and challenges were rarely present in the course content. In AEPS and TACE, the topic of learning environments was briefly introduced and limited to the integration of new technologies into teaching and learning; in UP1 and UP2, this theme and reference to student learning in collaboration with workplaces and through extra-curricular activities were missing from the curricula. The pedagogy for work-integrated or service learning was also missing from the course content.

During the interviews, the discussions on learning environments mainly focused on technology. The interviewees reported various digital spaces employed in the courses. However, their potential could have been better utilised, especially in UP1-2:

> For me, this [Moodle] is not a learning environment. This is a place where documents are stored, and they are sometimes visible and sometimes hidden there [laughs]. (T4)

In the interviews, the relationships between technology and pedagogy and digi-pedagogical competence were not problematised further. However, the participants from various courses presented the consistent view that this competence was important for their work, and they wished for more content on digital pedagogy and the integration of technology with learning:

> When the course started, I wished for […] learning about digital environments, distance learning, and that time, during the first session in the big group, the answer was that they do not belong to this field. […] Now they started to belong in a somewhat unplanned way, and, for sure, they refreshed [the course]. (P3)

As this shows, the topic of digital learning environments suddenly became more relevant due to the 'digital leap' caused by COVID-19. By gaining experience working in a digital environment, the trainers of all courses saw the possibility of teaching the courses through a hybrid mode in the future. Although the topics related to work as a learning environment for students were not included in the courses' curricula, the participants of all courses perceived to have developed as teachers in their own workplaces through teaching try-outs or practice periods.

4.4. Well-being as part of learning

Content addressing the interrelatedness of well-being and learning was scarce in the course curricula. Some links to well-being could be found in the content on the ethics of guidance (UP2), learner agency (TACE), the social and individual aspects of learning, emotions (AEPS), or dialogic modes of working (UP1, UP2 and AEPS). Perspectives on teachers' well-being was missing in all curricula. However, the interviewees unanimously repeated that all courses included practices (dialogues, sharing ideas, participatory methods) that supported participants' learning and well-being by contributing to open and respectful relationships and learning together. Further, a notable finding is that both the trainers and participants across all courses had found it refreshing to attend the courses because they offered them a break from work and some space for thinking and creativity. The courses (especially UP1-2 and AEPS) were also perceived as therapeutic as they allowed the participants to deal with negative experiences in teaching, and offered them a strong sense of belonging:

> And this, that there is a small group to which I belong. And I know that we meet often, and it lasts the whole year, and I am accepted there. I mean, this is a big thing […] when looking at it from the perspective of well-being. (T11)

Both the trainers and participants (all courses) unanimously agreed that the knowledge and skills related to students' and teaching staff's well-being are an important part of a university teacher's competence. The participants across all courses wished for more space for tips for coping with their workload and the pressure at work, and for handling discouraging experiences:

> There is one student from the time when I worked [in another university] who is still insulting me on social media. That student somehow got upset with me, and I've been wondering how somebody can get so angry that they do not let it go after ten

> years. […] This is a very important theme because this can make you feel threatened or something. If you have bad experiences, you don't want to end up in these situations, and I would absolutely raise the question of how to work it out. (P1)

The interviews also indicated that there is a need for more flexible practices with respect to the courses' implementation, ways of completing the courses, workload, and the use of languages. Although it was possible to complete all courses alongside their regular work, sometimes this was experienced as demanding by the teachers.

4.5. Collaborative aspects in learning, teaching, and broader work of teachers

The curricula analysis showed that this theme was present to a large extent on the level of most courses' (UP1-2, AEPS) objectives and practices. The overall objective of the pedagogical training was to prepare the participants to work in an interdisciplinary teaching community. All courses aimed to utilise and share participants' experiences and enable them to work together for the sake of learning. Peer mentoring, group work, dialogue, peer assessment, and feedback were specific topics in all curricula. Similarly, the interviewees across all courses mentioned these aspects and the related practices. The interviews revealed that discussions about teaching in heterogeneous groups of participants from different fields were eye-opening and strength of all courses. As one trainer commented:

> We are mixing up as many academics as possible from different disciplines in the same group […]. I mean, we are trying to emphasise different disciplines' perspectives, [encouraging] clashes between them, so that [participants] must consider another way of thinking. (T4)

This view was generally shared by the training participants:

> In my view, this is one of the perks and contributions of this training—that people come and have an opportunity to listen to how teaching is realised somewhere else. (P1)

Further, the participants of all courses provided examples that indicate that networking and the exchange of good practices created possibilities for new types of collaboration, networking, and the use of new ideas in the development of teaching:

> I think it was thanks to [UP1-2] that I started to collaborate with [trainer's name]; like we have now co-supervised one masters' thesis student, and, we are thinking of a shared publication; and then we have this plan to write a critical review with [UP1 participants' names] and another colleague from the training […]. A lot of these […] are benefits that I really didn't plan. (P4)

However, the interviews also revealed that the participants of different courses had varying needs regarding networking and collaborating with other participants during and after the course. For example, one batch of participants of the UP1 course did not seem to keep in touch after the course ended.

4.6. Internationalisation and interculturality

Based on the analyses of the curricula and the interviews, the challenges of internationalisation and interculturality were addressed via the TACE course, which aimed at developing intercultural communication and teaching through English skills. Along with EME, the course contents included interculturality. The course was appreciated for its contribution to changing how cultural and linguistic differences were perceived, how international students were approached, and how English was used for professional purposes:

> I get a similar feeling that I am on the right track, and maybe it gives me courage to question. And though I have been working with different nationalities for 30 years, such [new] insights came up. (P13)

> It [TACE] brought such confidence […]. I mean, it adds to using English in a more confident way. (P10)

Dealing with these topics in the course had, in certain cases, led to departmental action in the form of developments such as updating the guidelines for international students. The topic of internationalisation was only occasionally dealt with in the AEPS (as an optional theme), UP1, and UP2 courses (through spontaneous discussions or in teaching try-outs). However, the participants of these courses unanimously agreed that, due to the popularity of international programmes, these topics are important to most academic staff:

> We have a lot of students that come from somewhere else, and, in our work community, we mostly talk in English; so, in my view, this [internationalisation topic] is an important issue. (P2)

Most trainers of the AEPS, UP1, and UP2 courses reflected on the challenges related to training diverse groups of teachers, including international staff. Inclusion and equity were not explicitly mentioned in any course curriculum or interview as being the content or principles of the courses. The interviews with international staff indicated a need for UP1 and UP2 practices to be adjusted to the international learning environment. Specifically, the lack of negotiation regarding language policy and non-European perspectives was criticised.

4.7. Pedagogical leadership

Pedagogical leadership was rarely included in the descriptions of the course contents and the written practices. This was an optional topic in AEPS and only briefly referred to in the UP2 learning outcomes (as "skills for participation in development of teaching and pedagogical culture on department level"). The interviews showed that this topic was discussed in UP1-2 in small groups when relevant to the participants. It became clear that not all trainers and participants considered the topic a part of university pedagogy training (especially of UP1) and relevant to all participants' job tasks and future career plans. However, the interviews revealed that pedagogical leadership would be needed in the implementation of the pedagogical courses. For instance, suggestions were made to gather information more systematically on the participation in the courses (amounts, participants' units, backgrounds, and career stage) and the impacts of the training on the level of the faculty, departments, and units. Additionally, certain participants criticised the UP1-2 courses for not considering participants' needs and their feedback on the same. Conversely, some of the AEPS and TACE trainers and participants reported the systematic and continuous updating of the courses based on participants' feedback:

> We were given an opportunity to give feedback, and it was taken into account. (P17)

> I think a perfect example is the pandemic at the moment that fundamentally changes every teacher's environment and situation in the university; so, if we're running a programme this year or next year […] we can draw from what we observe at the moment. (T7)

Supporting a positive and collaborative work and teaching culture was not explicitly discussed from the perspective of pedagogical leadership in none of the course.

4.8. Curriculum work and development of teaching

Based on the analysis of the curricula, this theme was considered to some extent on the level of content of UP1 and UP2, and in a rather limited way for the other two courses. The content included specifics regarding university teaching (including research-based teaching), drafting and setting competence-based objectives and assessment criteria, the analysis of structure and core contents, the basics of planning teaching, and various perspectives on curricular work (e.g., phenomenon-based approach, connections to work and societal needs). The objectives of the pedagogical courses themselves (including competence-based objectives) were specified in all curricula. Except for TACE, all courses had detailed curricula with accurate information on the course contents, aims, modes of working, and relevant literature.

The interviews revealed certain shortcomings in this area. In various interviews, the need for additional knowledge of and skills in planning courses and curricula developmental work was mentioned. Some participants of UP1-2 and AEPS wished for a more systematic approach to dealing with these topics. The TACE participants were satisfied with the course because it seemed well planned, and its content was based on relevant research. Although some suggestions for structural improvement of the UP1 and AEPS courses were made, many participants considered the courses to be well planned regarding the choice of working methods. The interdisciplinary character of AEPS was considered a strength. Although research-based teaching was part of the courses' topics and principles on curricula level, its presence and meaning in the university context was realised in implicit way (e.g., TACE) and/or remained somewhat unclear to some, especially UP1-2, participants:

> The principles of research-based education were simply avoided […]. Research-based education, research-based teaching is not visible there; it should be somehow visible. (P3)

Similarly, the idea behind competence-based objectives and curricula was not easy to grasp, even for trainers. Generally, the participants of UP1, UP2, and AEPS experienced the course objectives as unrealistic and unclear:

> I had never grasped what [this course's] aims were and what was ultimately to be done […]. This remained completely open. (P3)

> In terms of the learning outcomes, I think it was more kind of unstated. (P5)

The trainers seemed to be aware of this, but they did not consider it problematic, as they believed the objectives are achieved on a general level.

4.9. Global, societal, and labour-market needs

The curricula analysis revealed that the theme was considered in a limited way in all courses content and practice. This was expressed through statements about the need to predict and react to societal and working-life needs and the creation of connections to societal institutions (AEPS). Collaboration between workplaces and education, and topics related to sustainability, were missing from all courses.

As for course practices, the connections to participants' work life and professional development needs were realised through teaching try-outs, which were stated in all curricula and confirmed through the trainers' and participants' experiences. The topics on this theme were recognised as important and timely in all interviews, and there were calls to deal with these topics (e.g., sustainability, global citizenship, and students' career prospects) in a more thorough and systematic way. Both trainers and participants of TACE saw the importance of the course in the globalised world. However, global themes were missing from the UP1, UP2, and AEPS course curricula, and some participants felt that these courses were too Finland-centric. Similarly, some participants from all four courses stated that the courses did not necessarily correspond to the current societal and working-life needs of students and, to a degree, teaching staff. This was of concern to some trainers across all courses, too:

> I paid attention to the 'work life' theme. Our university does not do well in this field; I wonder how we could contribute to that through our programme. In an ideal case, by paying more attention to that. (T7)

One of TACE trainers felt it rather difficult to discuss topics related to sustainability and global citizenship in the HE context. Such topics were not discussed in relation to university pedagogy either.

5. Summary of main results

Table 4 summarises the themes identified and their presence in the pedagogical training of a Finnish university based on curricula and interview analysis.

The table shows that the results of the curricula analysis often align with the findings from the interview data. However, in some cases, the interviews provided additional insights into the implementation of the pedagogical courses through the trainers' and participants' personal experiences of the courses. Thus, this part of the analysis indicated that there may be disparities between the formal curricula and the actual implementation of the courses.

During the analysis it came clear that the examined courses have different foci and functions. AEPS as the longstanding course offers multidisciplinary knowledge and development of skills. Other courses are shorter, which puts pressure to concentrate on certain themes. For example, internationalisation is covered in TACE, learning theories and approaches to learning and teaching are in focus of UP1, as curricular work is a main content of UP2.

6. Discussion

This study presents findings of a literature review on university pedagogy and demonstrates how university pedagogical courses offered in a Finnish research university meet the identified research themes at curriculum and practice level. The broad literature review reflects the complexity of learning and professional development and the multiple challenges related to the development of HE.

The findings of the literature review suggest that global megatrends, such as internationalisation and labour-market needs, must be considered in university teaching and teachers' pedagogical

Table 4
Summary of the main findings.

Theme	Curricula	Interviews
Development of integrative, multidimensi-onal, and responsible expertise	• Focus on teaching staff's expertise development • Perspectives on the nature of expertise and students' expertise development missing	• Focus on growth as a university teacher and a person • Trainers' intentions vs participants' expectations • Lack of support for collective agency and expertise development • Perspectives regarding the nature of expertise and students' expertise development missing but recognised as central
Learning theories, approaches to learning and teaching, and teacher beliefs	• Emphasis on student-centredness • Reflection and personalisation as core principles • Participants' needs and experiences as a starting point	• Student-centredness as the core of all courses • Need for broadening and diversification of perspectives on learning and guidance while considering the diverse reality of university teachers' work
Integration of versatile learning environments	• Considered on the level of practices • Content limited to the integration of new technologies • No mention of digi-competence and its development • Workplaces as learning environments for students almost completely ignored	• COVID-19 increased hybrid modes of working • Interactions in digital environments • Teaching try-outs (work-based learning) as a core of courses • Need for broadening the understanding of versatile learning environments (e.g., workplaces) • Relationship between technology, pedagogy, and digi-pedagogical competence not problematised
Well-being as a part of learning	• No explicit objectives but some related content (ethics of guidance, learner's agency, and emotions) • Practices having the potential to support learning and well-being (dialogue and small groups) • Possibility to complete the courses alongside work supporting teacher well-being	• Participatory modes of working and small groups • The courses offer space and time to stop, think, and be creative • Upskilling of teachers' pedagogical professionalism, leading to gained confidence • Need for supporting teachers' well-being and managing their workload
Collaborative aspects in learning, teaching, and broader work of teachers	• Preparation for collaboration and participation in an interdisciplinary teaching community • Dialogue and sharing experiences • Relevant content (peer mentoring, groups and assessment, dialogue and feedback)	• Networking, co-teaching, peer feedback, and learning together in heterogenous groups • New types of collaboration • Positive impacts of participation in courses on participants' own courses and units • Enthusiasm and collegial support of trainers • Hope for diversification in the utilisation of new ideas
Internationali-sation and interculturality	• Theme covered through EME in the TACE course • Interculturality as a core of TACE and an optional theme of AEPS	• Appreciation of topics related to teaching multicultural groups. Positive impacts of broadening knowledge on interculturality on personal and institutional level • Need for a more systematic approach to the topics in most of the courses • Lack of inclusive practices
Pedagogical leadership	• Presence limited throughout the training • Optional theme offered in one course	• Practices related to pedagogical leadership differed between the courses • Collaborative practices that were in-line with ideas of pedagogical leadership • Lack of systematic follow-up on participation in and impacts of courses
Curriculum work and development of teaching	• Related content identified in all courses • Investigative approach to development • Clearly stated objectives/aims (including competence-based ones) in all courses • Limited information about one course	• Missing in university pedagogical courses but recognised as an important topic; need for inclusion of these topics • Interdisciplinary character • Participation in courses as an inspiration for the development of one's own teaching • Need for a more systematic introduction of relevant topics (e.g., planning of courses and teaching, competence-based and research-based objectives) • Some unstated objectives in certain courses
Global, societal, and labour-market needs	• Not identified as explicit topics • Connection to world of work and societal needs identified on the level of objectives in most courses	• Missing in university pedagogical courses but recognised as important topics • Important place of topics on interculturality in a global world • Need for pedagogy for work-integrated learning and collaboration between education and workplaces

training, as these trends influence the nature of professional expertise required in societies. Thus, we suggest that when renewing curricula of study programmes and staff training, the starting point would be familiarisation with future megatrends and competence needs. It is management's task especially to direct curriculum work so that this kind of examination is conducted. Naturally, university teachers must acquire research-based knowledge on learning and teaching to act as guides to their students' learning. Utilising diversifying learning environments requires an understanding of learning processes, collaborative aspects of learning, and well-being in learning. Our recommendation is to include these perspectives in university pedagogical training programmes.

Concerning the study's empirical findings, all research lines and their sub-themes found in the literature review were at least partly included in the content or practices of the four courses studied. The findings indicated that the perceived positive impacts of the courses were related to applying participatory methods in teaching, creating possibilities for networking, sharing ideas, and establishing multidisciplinary collaboration among teachers, and obtaining support for the teachers' personal and professional growth. Simultaneously, the analyses revealed challenges.

First, perspectives on the development of students' expertise were missing from the curricula. However, based on the extensive research in this area, supporting the development of students' expertise, agency, and generic skills can be considered a key aspect in HE in today's fast-changing world (Billett, 2015; Goller, 2017; Jääskelä et al., 2020; Su, 2011; Tynjälä & Gijbels, 2012).

Second, student-centredness emphasised in recent research (Bechter, Dimmock, & Jackson, 2019) was included in the content and practice of all the courses studied. However, the study revealed a need to acknowledge the variety of teaching situations in university teacher work, various academic cultures, and approaches to learning (Kyndt, Dochy, Struyven, & Cascallar, 2011; Minbashian,

Huon, & Bird, 2004; Nelson Laird et al., 2008) including international experiences (Chavez & Longerbeam, 2016; Kärkkäinen, 2017), when applying student-centred practices.

Third, recent research emphasises the integration of versatile learning environments and of theory and practice as essential for the development of expertise (Billett, 2015; Tynjälä, Heikkinen, & Kallio, 2022). However, it remained unclear to the participants how they could apply workplace learning and other experiences outside university environments to their students' studies. Digital learning environments and related pedagogical competences were not dealt with either, until the COVID-19 pandemic forced courses to move online. Similarly, certain basics such as principles of course planning and different curriculum models remained unclear to some participants. In several studies these matters are highlighted as being at the core of effective teaching and learning (Biggs, 1993; Fung, 2016, 2017; Silander & Stigmar, 2021).

Fourth, although students' and teachers' well-being (Asikainen et al., 2020; Krumrie et al., 2010; Puolakanaho et al., 2018) and the role of emotions in learning and teaching (Hökkä et al., 2020; Luque-Reca, García-Martínez, Pulido-Martos, Lorenzo Burguera, & Augusto-Landa, 2022; Talvio & Lonka, 2021) are emphasised in research, these themes were almost completely absent from the contents of the courses. However, they were recognised as essential in the interviews. The findings suggest that contents and tools for supporting the well-being of teachers (e.g., to manage workload and cope with uncertainties) should be added to university pedagogical courses. It was evident that peer support and discussions in a trustful environment facilitated growth as a teacher and acted as a catalyst for coping with negative experiences and anxieties. Similar observations were made in some earlier studies, according to which peer and group mentoring (Heikkinen et al., 2012; Skaniakos & Piirainen, 2019; Tynjälä et al., 2021) had affirmative influences on teachers' well-being.

Finally, the alignment of pedagogical training with the global, societal, and labour-market needs was recognised as essential in the interviews but missing from the courses. Although topics such as sustainability or work-based learning were experienced as difficult to implement in university education (also according to earlier research, e.g., Howard, 2013; Kapitulčinová et al., 2018), several universities have successfully responded to these challenges by developing work-related learning (Billett, 2015; Kyndt et al., 2022; Tynjälä, Heikkinen, & Kallio, 2022) and courses on sustainability (Lim, Haufiku, Tan, Ahmed, & Ng, 2022; Singer-Brodowski, 2017). Thus, the development of work-integrated learning and sustainability practices for both students' education and staff training is recommended. Teacher beliefs are critical to the implementation of innovations related to societal changes (e.g., technology) (Heinonen et al., 2019; Jääskelä et al., 2017b; Stahl & Hakkarainen, 2021), but also difficult to modify (Pajares, 1992). However, in contrast to other studies (cf., Gao & Zhang, 2020; Mali, 2021), the interviews in this study revealed that positive experiences of technology use in teaching during the pandemic increased the appreciation of digitalisation in education.

The results suggest that the development of university pedagogical training would benefit from a modular structure that enables the addition of several optional topics, such as aligning with current megatrends and the various needs of the participants. In today's fast-changing world, it is vital that university teachers have extensive opportunities for continuous learning and professional development so they can support continuous learning for their students.

When interpreting the results of this study, the following limitations should be considered. A qualitative data analysis process is limited due to its subjective nature (Denzin & Lincoln, 2000). For example, the choice of relevant literature for the extension of earlier-identified university teacher competence areas (Toom & Pyhältö, 2020) was partially based on the utilisation of authors' specific expertise and networks in the field, and a different group of authors would potentially emphasise different areas. Conversely, the diverse expertise of the authors created a potentially multidimensional examination of university pedagogy courses. Although a systematic literature review was not possible, the snowball method produced a multidimensional and reliable literature analysis. The analysis of university pedagogical courses was conducted in only one university and cannot be generalised to different contexts. However, a multidimensional approach was adopted, and the analytic framework (Table 2 and Fig. 1) may serve other universities as a tool for the evaluation and planning of their curricula and for the design of similar professional development programmes.

The studied case was elaborated in depth by utilising diverse sources of data, including systematic and coherent examination of curricula and experiences of various stakeholders (trainers and participants), which was a way of ensuring the credibility and trustworthiness of the study (Golafshani, 2003; Silverman, 2010). The data turned out to be rich and in further study we continue with analysing trends arising from data based on participants' and trainers' experiences of the courses.

7. Conclusions

This study contributes to the development of university pedagogical courses by introducing through a case study a research-based analysis of the curricula and the implementation of such training in a Finnish research university. The findings of the broad literature review contribute to discussions on the key drivers of the development of university pedagogy and provides a conceptual tool for universities to analyse their own pedagogical courses. There is an obvious need to critically revise courses' structures, contents, and practices so that they better align with recent research-based knowledge and thus increase both the quality and impact of university teaching. Recent global and societal trends related to digitalisation, internationalisation, sustainability, work-related learning, and the diversification of student populations require systematic responses on the curricula level of university pedagogy courses so that they better correspond to university teachers' work in these changing times.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary material

Supplementary material associated with this article can be found https://doi.org/10.1016/j.tate.2023.104088.

References

Ahn, M. Y., & Davis, H. H. (2020). Four domains of students' sense of belonging to university. *Studies in Higher Education, 45*(3), 622–634. https://doi.org/10.1080/03075079.2018.1564902

Albareda-Tiana, S., Vidal-Raméntol, S., Pujol-Valls, M., & Fernández-Morilla, M. (2018). Holistic approaches to develop sustainability and research competencies in pre-service teacher training. *Sustainability, 10*(10), 3698. https://doi.org/10.3390/su10103698

Alpay, E., & Verschoor, R. (2014). The teaching researcher: Faculty attitudes towards the teaching and research roles. *European Journal of Engineering Education, 39*(4), 365–376. https://doi.org/10.1080/03043797.2014.895702

Anderson, V. (2020). A digital pedagogy pivot: Re-Thinking higher education practice from an HRD perspective. *Human Resource Development International, 23*(4), 452–467. https://doi.org/10.1080/13678868.2020.1778999

Annala, J., & Mäkinen, M. (2013). Curriculum as intentional and dynamic process in higher education, 18–19 October [Paper presentation]. The European Conference on Curriculum Studies, Braga, Portugal https://www.researchgate.net/publication/274337069_Curriculum_as_intentional_and_dynamic_process_in_higher_education.

Annala, J., Mäkinen, M., Lindén, J., & Henriksson, J. (2021). Change and stability in academic agency in higher education curriculum reform. *Journal of Curriculum Studies, 54*(1), 53–69. https://doi.org/10.1080/00220272.2020.1836261

Antinluoma, M., Ilomäki, L., Lahti-Nuuttila, P., & Toom, A. (2018). Schools as professional learning communities. *Journal of Education and Learning, 7*(5), 76–91. https://doi.org/10.5539/jel.v7n5p76

Ardelt, M. (2020). Can wisdom and psychosocial growth be learned in university courses? *Journal of Moral Education, 49*(1), 30–45. https://doi.org/10.1080/03057240.2018.1471392

Arvaja, M. (2016). Building teacher identity through the process of positioning. *Teaching and Teacher Education, 59*(2016), 392–402. https://doi.org/10.1016/j.tate.2016.07.024

Arvaja, M. (2018). Tensions and striving for coherence in an academic's professional identity work. *Teaching in Higher Education, 23*(3), 291–306. https://doi.org/10.1080/13562517.2017.1379483

Arvaja, M., & Sarja, A. (2020). Dialogic tensions in pre-service subject teachers' identity negotiations. *Scandinavian Journal of Educational Research, 65*(2), 318–330. https://doi.org/10.1080/00313831.2019.1705895

Asikainen, H., Salmela-Aro, K., Parpala, A., & Katajavuori, N. (2020). Learning profiles and their relation to study-related burnout and academic achievement among university students. *Learning and Individual Differences, 78*(101781), 1–7. https://doi.org/10.1016/j.lindif.2019.101781

Aškerc, K., & Kočar, S. (2015). Teaching and the pedagogical training of university teaching staff – practice and opinions under Slovenian higher education legislation. *Education Inquiry, 6*(2), 159–175. https://doi.org/10.3402/edui.v6.25591

Backhaus, I., Varela, A. R., Khoo, S., Siefken, K., Crozier, A., Begotaraj, E., … Kawachi, I. (2020). Associations between social capital and depressive symptoms among college students in 12 countries: Results of a cross-national study. *Frontiers in Psychology, 11*, 644. https://doi.org/10.3389/fpsyg.2020.00644

Badcock, P. B. T., Pattison, P. E., & Harris, K.-L. (2010). Developing generic skills through university study: A study of arts, science and engineering in Australia. *Higher Education, 60*(4), 441–458. https://doi.org/10.1007/s10734-010-9308-8

Baeten, M., Kyndt, E., Struyven, K., & Dochy, F. (2010). Using student-centred learning environments to stimulate deep approaches to learning: Factors encouraging or discouraging their effectiveness. *Educational Research Review, 5*(3), 243–260. https://doi.org/10.1016/j.edurev.2010.06.001

Barnett, R. (2012). Learning for an unknown future. *Higher Education Research and Development, 31*(1), 65–77. https://doi.org/10.1080/07294360.2012.642841

Barnett, R., & Coate, K. (2005). *Engaging the curriculum in higher education*. McGraw Hill Education.

Barnett, R., & Jackson, N. (2019). *Ecologies for learning and practice: Emerging ideas, sightings, and possibilities*. Routledge. https://doi.org/10.4324/9781351020268

Barth, M., & Rieckmann, M. (2012). Academic staff development as a catalyst of curriculum change towards education for sustainable development: An output perspective. *Journal of Cleaner Production, 26*(1), 28–36. https://doi.org/10.1016/j.jclepro.2011.12.011

Bechter, B. E., Dimmock, J. A., & Jackson, B. (2019). A cluster-randomized controlled trial to improve student experiences in physical education: Results of a student-centered learning intervention with high school teachers. *Psychology of Sport and Exercise, 45*, 1–10. https://doi.org/10.1016/j.psychsport.2019.101553

Beijaard, D., Meijer, P. C., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teacher and Teacher Education, 20*, 107–128. https://doi.org/10.1016/j.tate.2003.07.001

Bekele, T. A., & Ofoyuru, D. T. (2021). Emerging university-society engagements in Africa: An analysis of strategic plans. *Journal of Comparative & International Higher Education, 13*(1), 151–180. https://doi.org/10.32674/jcihe.v13i1.1690

Bereiter, C. (2002). *Education and mind in the knowledge age*. Lawrence Erlbaum Associates.

Bereiter, C., & Scardamalia, M. (1993). *Surpassing ourselves: An inquiry into the nature and implications of expertise*. Open Court.

Biggs, J. B. (1993). What do inventories of students' learning processes really measure? A theoretical review and clarification. *British Journal of Educational Psychology, 63*(1), 3–19. https://doi.org/10.1111/j.2044-8279.1993.tb01038.x

Billett, S. (2015). *Integrating practice-based experiences into higher education*. Springer.

Binkley, M., Erstad, O., Herman, J., Raizen, S., Ripley, M., Miller-Ricci, M., et al. (2012). Defining twenty-first century skills. In P. Griffin, B. McGaw, & E. Care (Eds.), *Assessment and teaching of 21st century skills* (pp. 17–66). Springer. https://doi.org/10.1007/978-94-007-2324-5_2.

Boud, D. (2000). Sustainable assessment: Rethinking assessment for the learning society. *Studies in Continuing Education, 22*(2), 151–167. https://doi.org/10.1080/713695728

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brown, S. (2013). Change management in higher education: An empirical approach. In L. Morris, & C. Tsolakidis (Eds.), *Proceedings of the international conference on information communication technologies in education* (pp. 89–98). SOLENT University and JIBC.

Caniglia, G., John, B., Bellina, L., Lang, D. J., Wiek, A., Cohmer, S., et al. (2018). The glocal curriculum: A model for transnational collaboration in higher education for sustainable development. *Journal of Cleaner Production, 171*, 368–376. https://doi.org/10.1016/j.jclepro.2017.09.207

Cao, Y., Postareff, L., Lindblom-Ylanne, S., & Toom, A. (2021). A survey research on Finnish teacher educators' research-teaching integration and its relationship with their approaches to teaching. *European Journal of Teacher Education*. Advance online publication. https://doi.org/10.1080/02619768.2021.1900111

Cárdenas-Robledo, L. A., & Peña-Ayala, A. (2018). Ubiquitous learning: A systematic review. *Telematics and Informatics, 35*(5), 1097–1132. https://doi.org/10.1016/j.tele.2018.01.009

Chavez, A. F., & Longerbeam, S. D. (2016). *Teaching across cultural strengths: A guide to balancing integrated and individuated cultural frameworks in college teaching*. Stylus Publishing, LLC.

Cicognani, E., Pirini, C., Keyes, C., Joshanloo, M., Rostami, R., & Nosratabadi, M. (2008). Social participation, sense of community and social well-being: A study on American, Italian and Iranian university students. *Social Indicators Research, 89*(1), 97–112. https://doi.org/10.1007/s11205-007-9222-3

Cohen, J. L. (2010). Getting recognized: Teachers negotiating professional identities as learners through talk. *Teaching and Teacher Education, 26*, 473–481. https://doi.org/10.1016/j.tate.2009.06.005

Collin, K., Herranen, S., & Riivari, E. (2017). Which aspects frame professional agency and creativity in information technology work? *Business Creativity and the Creative Economy, 3*, 88–98. https://doi.org/10.18536/bcce.2017.10.3.1.08

Coskun, Y. D. (2015). Promoting digital change in higher education: Evaluating the curriculum digitalisation. *Journal of International Education Research, 11*(3), 197–204. https://doi.org/10.19030/jier.v11i3.9371

Cress, U., Rosé, C., Wise, A. F., & Oshima, J. (2021). *International handbook of computer-supported collaborative learning*. Springer.

Crossman, K. (2018). Immersed in academic English: Vocabulary and academic outcomes of a CLIL university preparation course. *International Journal of Bilingual Education and Bilingualism, 21*(5), 564–577. https://doi.org/10.1080/13670050.2018.1494698

De Hei, M. S. A., Strijbos, J.-W., Sjoer, E., & Admiraal, W. (2015). Collaborative learning in higher education: Lecturers' practices and beliefs. *Research Papers in Education, 30*(2), 232–247. https://doi.org/10.1080/02671522.2014.908407

Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of qualitative research* (2nd ed.). SAGE.

Dervin, F., & Layne, H. (2013). A guide to interculturality for international and exchange students: An example of Hostipitality? *Journal of Multicultural Discourses, 8*(1), 1–19. https://doi.org/10.1080/17447143.2012.753896

Dillenbourg, P., Järvelä, S., & Fischer, F. (2009). The evolution of research on computer-supported collaborative learning. In N. Balacheff, S. Ludvigsen, T. Jong, A. Lazonder, & S. Barnes (Eds.), *Technology-enhanced learning* (pp. 3–19). Springer.

Elsen, M., Visser-Wijnveen, G. J., Van Der Rijst, R. M., & Van Driel, J. H. (2009). How to strengthen the connection between research and teaching in undergraduate university education. *Higher Education Quarterly, 63*(1), 64–85. https://doi.org/10.1111/j.1468-2273.2008.00411.x

Engeness, I. (2021). Developing teachers' digital identity: Towards the pedagogic design principles of digital environments to enhance students' learning in the 21st century. *European Journal of Teacher Education, 44*(1), 96–114. https://doi.org/10.1080/02619768.2020.1849129

Engeström, Y. (2004). The new generation of expertise: Seven theses. In H. Rainbird, A. Fuller, & A. Munro (Eds.), *Workplace learning in context* (pp. 145–165). Routledge.

Entwistle, N. J. (1991). Approaches to learning and perceptions of the learning environment: Introduction to the special issue. *Higher Education, 22*(3), 201–204. https://doi.org/10.1007/BF00132287

Entwistle, N., & McCune, V. (2004). The conceptual bases of study strategy inventories. *Educational Psychology Review, 16*(4), 315–345. https://doi.org/10.1007/s10648-004-0003-0

Eraut, M. (2004). Transfer of knowledge between education and workplace settings. In H. Rainbird, A. Fuller, & A. Munro (Eds.), *Workplace learning in context* (pp. 201–221). Routledge.

Ericsson, K. A. (2006). The influence of experience and deliberate practice on the development of superior expert performance. In K. A. Ericsson, N. Charness, P. J. Feltovich, & R. R. Hoffman (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 683–703). Cambridge University Press.

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs and culture intersect. *Journal of Research on Technology in Education, 42*(3), 255–284. https://doi.org/10.1080/15391523.2010.10782551

Eteläpelto, A., Vähäsantanen, K., Hökkä, P., & Paloniemi, S. (2013). What is agency? Conceptualizing professional agency at work. *Educational Research Review, 10*, 45–65. https://doi.org/10.1016/j.edurev.2013.05.001

Fahey, S. J. (2012). Curriculum change and climate change: Inside outside pressures in higher education. *Journal of Curriculum Studies, 44*(5), 703–722. https://doi.org/10.1080/00220272.2012.679011

Ferguson, R. (2012). Learning analytics: Drivers, developments and challenges. *International Journal of Technology Enhanced Learning, 4*, 304–317. https://doi.org/10.1504/IJTEL.2012.051816

Flaxman, P. E., Bond, F. W., & Livheim, F. (2013). *The mindful and effective employee: An acceptance and commitment therapy training manual for improving well-being and performance*. New Harbinger Publications, Inc.

Friman, M., Schreiber, D., Syrjänen, R., Kokkonen, E., Mutanen, A., & Salminen, J. (2018). Steering sustainable development in higher education – outcomes from Brazil and Finland. *Journal of Cleaner Production, 186*, 364–372. https://doi.org/10.1016/j.jclepro.2018.03.090

Frögeli, E., Djordjevic, A., Rudman, A., Livheim, F., & Gustavsson, P. (2015). A randomized controlled pilot trial of acceptance and commitment training (ACT) for preventing stress-related ill health among future nurses. *Anxiety, Stress & Coping, 29*(2), 202–218. https://doi.org/10.1080/10615806.2015.1025765

Fung, D. (2016). Engaging students with research through a connected curriculum: An innovative institutional approach. *Council on Undergraduate Research Quarterly, 37*(2), 30. https://doi.org/10.18833/curq/37/2/4

Fung, D. (2017). *A connected curriculum for higher education*. UCL Press. https://www.uclpress.co.uk/products/86213.

Gao, L. X., & Zhang, L. J. (2020). Teacher learning in difficult times: Examining foreign language teachers' cognitions about online teaching to tide over COVID-19. *Frontiers in Psychology, 11*(549653), 1–14. https://doi.org/10.3389/fpsyg.2020.549653

Geeraerts, K., Tynjälä, P., Heikkinen, H. L., Markkanen, I., Pennanen, M., & Gijbels, D. (2015). Peer-group mentoring as a tool for teacher development. *European Journal of Teacher Education, 38*(3), 358–377. https://doi.org/10.1080/02619768.2014.983068

Gibbs, G., & Coffey, M. (2004). The impact of training of university teachers on their teaching skills, their approach to teaching and the approach to learning of their students. *Active Learning in Higher Education, 5*(1), 87–100. https://doi.org/10.1177/1469787404040463

van Gijn-Grosvenor, E. L., & Huisman, P. (2020). A sense of belonging among Australian university students. *Higher Education Research and Development, 39*(2), 376–389. https://doi.org/10.1080/07294360.2019.1666256

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *Qualitative Report, 8*(4), 597–606. https://doi.org/10.46743/2160-3715/2003.1870

Goller, M., & Paloniemi, S. (2017). Agency at work, learning and professional development: An introduction. In M. Goller, & S. Paloniemi (Eds.), *Agency at work: An agentic perspective on professional learning and development* (pp. 1–14). Springer. https://doi.org/10.1007/978-3-319-60943-0_1.

Gow, L., & Kember, D. (1993). Conceptions of teaching and their relationship to student learning. *British Journal Of Educational Psychology, 63*, 20–33. https://doi.org/10.1111/j.2044-8279.1993.tb01039.x

Griga, D., & Hadjar, A. (2014). Migrant background and higher education participation in Europe: The effect of the educational systems. *European Sociological Review, 30*(3), 275–286. https://doi.org/10.1093/esr/jct031

Grossmann, I. (2017). Wisdom in context. *Perspectives on Psychological Science, 12*(2), 233–257. https://doi.org/10.1177/1745691616672066

Guile, D., & Griffiths, T. (2001). Learning through work experience. *Journal of Education and Work, 14*(1), 113–131. https://doi.org/10.1080/13639080020028738

Hadwin, A., Järvelä, S., & Miller, M. (2018). Self-regulation, co-regulation, and shared regulation in collaborative learning environments. In D. H. Schunk, & J. A. Greene (Eds.), *Handbook of self-regulation of learning and performance* (pp. 83–106). Routledge/Taylor & Francis Group.

Haggis, T. (2004). Constructions of learning in higher education: Metaphor, epistemology, and complexity. In J. Satterthwaite, & E. Atkinson (Eds.), *The disciplining of education: New languages of power and resistance* (pp. 181–197). Trentham Books.

Hakkarainen, K., Palonen, T., Paavola, S., & Lehtinen, E. (2004). *Communities of networked expertise: Professional and educational perspectives*. EARLI.

Häkkinen, P., & Hämäläinen, R. (2012). Shared and personal learning spaces: Challenges for pedagogical design. *Internet and Higher Education, 15*(4), 231–236. https://doi.org/10.1016/j.iheduc.2011.09.001

Häkkinen, P., Järvelä, S., Mäkitalo-Siegl, K., Ahonen, A., Näykki, P., & Valtonen, T. (2017). Preparing teacher-students for twenty-first-century learning practices (PREP 21): A framework for enhancing collaborative problem-solving and strategic learning skills. *Teachers and Teaching: Theory and Practice, 23*(1), 25–41. https://doi.org/10.1080/13540602.2016.1203772

Hanbury, A., Prosser, M., & Rickinson, M. (2008). The differential impact of UK accredited teaching development programmes on academics' approaches to teaching. *Studies in Higher Education, 33*(4), 469–483. https://doi.org/10.1080/03075070802211844

Hanson, J. M., Trolian, T. L., Paulsen, M. B., & Pascarella, E. T. (2016). Evaluating the influence of peer learning on psychological well-being. *Teaching in Higher Education, 21*(2), 191–206. https://doi.org/10.1080/13562517.2015.1136274

Han, J., Yin, H., Wang, J., & Bai, Y. (2020). Challenge job demands and job resources to university teacher well-being: The mediation of teacher efficacy. *Studies in Higher Education, 45*(8), 1771–1785. https://doi.org/10.1080/03075079.2019.15941

Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school*. Teachers College Press.

Hargreaves, A., & O'Connor, M. T. (2018). *Collaborative professionalism: When teaching together means learning for all*. Corwin.

Harris, M., & Chisholm, C. (2011). Beyond the workplace: Learning in the lifeplace. In M. Malloch, L. Cairns, K. Evans, & B. O'Connor (Eds.), *The SAGE handbook of workplace learning*. SAGE.

Harteis, C., & Billett, S. (2013). Intuitive expertise: Theories and empirical evidence. *Educational Research Review, 9*, 145–157. https://doi.org/10.1016/j.edurev.2013.02.001

Heikkinen, H. L. T., Jokinen, H., & Tynjälä, P. (2012). Teacher education and development as lifelong and lifewide learning. In H. Heikkinen, H. Jokinen, & P. Tynjälä (Eds.), *Peer-group mentoring for teacher development* (pp. 3–30). Routledge.

Heilala, V., Jääskelä, P., Saarela, M., Kuula, A.-S., Eskola, A., & Kärkkäinen, T. (2022). Sitting at the stern and holding the rudder": Teachers' reflections on action in higher education based on student agency analytics. In L. Chechurin (Ed.), *Digital teaching and learning in higher education: Developing and disseminating skills for blended learning* (pp. 71–91). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-00801-6_4.

Heinonen, K., Jääskelä, P., Häkkinen, P., Isomäki, H.-K., & Hämäläinen, R. (2019). University teachers as developers of technology-enhanced teaching – do beliefs matter? *Journal of Research on Technology in Education, 51*(2), 135–151. https://doi.org/10.1080/15391523.2018.1564894

Hökkä, P., Vähäsantanen, K., & Paloniemi, S. (2020). Emotions in learning at work: A literature review. *Vocations and Learning, 13*(1), 1–25. https://doi.org/10.1007/s12186-019-09226-zw

Honkimäki, S., Jääskelä, P., Kratochvil, J., & Tynjälä, P. (2022). University-wide top-down curriculum reform at a Finnish university: Perceptions of the academic staff. *European Journal of Higher Education, 12*(2), 153–170. https://doi.org/10.1080/21568235.2021.1906727

Howard, S. K. (2013). Risk-aversion: Understanding teachers' resistance to technology integration. *Technology, Pedagogy and Education, 22*(3), 357–372. https://doi.org/10.1080/1475939X.2013.802995

Howlett, C., Ferreira, J., & Blomfield, J. (2016). Teaching sustainable development in higher education. *International Journal of Sustainability in Higher Education, 17*(3), 305–321. https://doi.org/10.1108/IJSHE-07-2014-0102

Huynh, A. C., & Grossmann, I. (2020). A pathway for wisdom-focused education. *Journal of Moral Education, 49*, 9–29. https://doi.org/10.1080/03057240.2018.1496903

Jääskelä, P., Häkkinen, P., & Rasku-Puttonen, H. (2017a). Supporting and constraining factors in the development of university teaching experienced by teachers. *Teaching in Higher Education, 22*(6), 655–671. https://doi.org/10.1080/13562517.2016.1273206

Jääskelä, P., Häkkinen, P., & Rasku-Puttonen, H. (2017b). Teacher beliefs regarding learning, pedagogy, and the use of technology in higher education. *Journal of Research on Technology in Education, 49*(3–4), 198–211. https://doi.org/10.1080/15391523.2017.1343691

Jääskelä, P., Heilala, V., Kärkkäinen, T., & Häkkinen, P. (2021). Student agency analytics: Learning analytics as a tool for analyzing student agency in higher education. *Behaviour & Information Technology, 40*(8), 790–808. https://doi.org/10.1080/0144929X.2020.1725130

Jääskelä, P., & Nissilä, P. (2015). Identifying themes for research-based development of pedagogy and guidance in higher education. *Scandinavian Journal of Educational Research, 59*(1), 24–41. https://doi.org/10.1080/00313831.2013.838696

Jääskelä, P., Nykänen, S., & Tynjälä, P. (2018). Models for the development of generic skills in Finnish higher education. *Journal of Further and Higher Education, 42*(1), 130–142. https://doi.org/10.1080/0309877X.2016.1206858

Jääskelä, P., Poikkeus, A., Häkkinen, P., Vasalampi, K., Rasku-Puttonen, H., & Tolvanen, A. (2020). Students' agency profiles in relation to student-perceived teaching practices in university courses. *International Journal of Educational Research, 103*, 1–14. https://doi.org/10.1016/j.ijer.2020.101604

Jalali, S., & Wohlin, C. (2012). Systematic literature studies: Database searches vs. backward snowballing. In *Proceedings of the 2012 ACM-IEEE international symposium on empirical software engineering and measurement* (pp. 29–38). IEEE. https://doi.org/10.1145/2372251.2372257.

Jalkanen, J. (2015). Development of pedagogical design in technology-rich environments for language teaching and learning. Jyväskylä Studies in Humanities 265) [Doctoral dissertation, university of Jyväskylä]. JYX Digital Repository http://urn.fi/URN:ISBN:978-951-39-6356-9.

Jalkanen, J., & Nikula, T. (2020). Redesigning the curriculum to develop multilingual academic literacies: An analysis of language conceptualizations. In M. Kuteeva, K. Kaufhold, & N. Hynninen (Eds.), *Language perceptions and practices in multilingual universities* (pp. 113–135). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-38755-6_5.

Jäppinen, A.-K., & Ciussi, M. (2013). Collaborative leadership as the lens for co-creating an innovation – a curriculum reform in management education. In R. Smeds, & O. Irrmann (Eds.), *Co-create 2013: The boundary-crossing conference on co-design in innovation* (pp. 213–224). Aalto University.

Juutilainen, M., Metsäpelto, R.-L., & Poikkeus, A.-M. (2018). Becoming agentic teachers: Experiences of the home group approach. *Teaching and Teacher Education, 76*(November), 116–125. https://doi.org/10.1016/j.tate.2018.08.013

Kallio, E. (2011). Integrative thinking is the key: An evaluation of current research into the development of adult thinking. *Theory & Psychology, 21*(6), 785–801. https://doi.org/10.1177/0959354310388344

Kallio, E. (2020). From multiperspective to contextual integrative thinking in adulthood: Considerations on theorisation of adult thinking and its place as a component of wisdom. In E. Kallio (Ed.), *Development of adult thinking: Interdisciplinary perspectives on cognitive development and adult learning* (pp. 9–32). Routledge. https://doi.org/10.4324/9781315187464.

Kálmán, O., Tynjälä, P., & Skaniakos, T. (2020). Patterns of university teachers' approaches to teaching, professional development and perceived departmental cultures. *Teaching in Higher Education, 25*(5), 595–614. https://doi.org/10.1080/13562517.2019.1586667

Kalsoom, Q., & Khanam, A. (2017). Inquiry into sustainability issues by preservice

teachers: A pedagogy to enhance sustainability consciousness. *Journal of Cleaner Production, 164*, 1301–1311. https://doi.org/10.1016/j.jclepro.2017.07.047
Kapitulčinová, D., Atkisson, A., Perdue, J., & Will, M. (2018). Towards integrated sustainability in higher education – mapping the use of the Accelerator toolset in all dimensions of university practice. *Journal of Cleaner Production, 172*, 4367–4382. https://doi.org/10.1016/j.jclepro.2017.05.050
Kärkkäinen, K. (2017). *Learning, teaching and integration of adult migrants in Finland (Jyväskylä studies in educatioon, psychology and social research 594* [Doctoral dissertation, University of Jyväskylä]. JYX Digital Repository http://urn.fi/URN:ISBN:978-951-39-7212-7.
Karm, M. (2010). Reflection tasks in pedagogical training courses. *International Journal for Academic Development, 15*(3), 203–214. https://doi.org/10.1080/1360144X.2010.497681
Katajavuori, N., Vehkalahti, K., & Asikainen, H. (2021). Promoting university students' well-being and studying with an acceptance and commitment therapy (ACT)-based intervention. *Current Psychology*. https://doi.org/10.1007/s12144-021-01837-x
Keengwe, J., Georgina, D., & Wachira, P. (2010). Faculty training strategies to enhance pedagogy-technology integration. *International Journal of Information and Communication Technology Education, 6*(3), 1–10. https://doi.org/10.4018/jicte.2010070101
Kember, D., Leung, D. Y., & Ma, R. S. (2007). Characterizing learning environments capable of nurturing generic capabilities in higher education. *Research in Higher Education, 48*(5), 609–632. https://doi.org/10.1007/s11162-006-9037-0
Khan, M. A., & Law, L. S. (2015). An integrative approach to curriculum development in higher education in the USA: A theoretical framework. *International Education Studies, 8*(3), 66–76. https://doi.org/10.5539/ies.v8n3p66
Kiltz, L., Rinas, R., Daumiller, M., Fokkens-Bruinsma, M., & Jansen, E. (2020). When they struggle, I cannot sleep well either': Perceptions and interactions surrounding university student and teacher wellbBeing. *Frontiers in Psychology, 11*, Article 578378. https://doi.org/10.3389/fpsyg.2020.578378
Kim, C. M., Kim, K. M., Lee, C., Spector, M., & DeMeester, K. (2013). Teacher beliefs and technology integration. *Teaching and Teacher Education, 29*, 76–85. https://doi.org/10.1016/j.tate.2012.08.005
Kinay, I. (2018). Investigation of prospective teachers' beliefs towards authentic assessment. *World Journal of Education, 8*(1), 75–85. https://doi.org/10.5430/wje.v8n1p75
Kinman, G., & Jones, F. (2008). A life beyond work? Job demands, work-life balance, and wellbeing in UK academics. *Journal of Human Behavior in the Social Environment, 17*(1–2), 41–60. https://doi.org/10.1080/10911350802165478
Kinsella, E. A., & Pitman, A. (Eds.). (2012). *Phronesis as professional knowledge: Practical wisdom in the profession*. Sense. https://doi.org/10.1007/978-94-6091-731-8.
Klemola, U., Ikäheimo, H., & Hämäläinen, T. (2020). OHO-opas: Opiskelukykyä, hyvinvointia ja osallisuutta korkeakouluihin. Jyväskylän yliopisto www.urn.fi/URN:ISBN:978-951-39-8110-5.
Kobbe, L., Weinberger, A., Dillenbourg, P., Harrer, A., Hämäläinen, R., Häkkinen, P., et al. (2007). Specifying computer-supported collaboration scripts. *International Journal of Computer-Supported Collaborative Learning, 2*(2–3), 211–224. https://doi.org/10.1007/s11412-007-9014-4
Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall, Inc.
Korhonen, V. (2017). Ensimmäisen vuoden opintoihin kiinnittymisen monet kasvot yliopistossa. In V. Korhonen, J. Annala, & P. Kulju (Eds.), *Kehittämisen palat, yhteisöjen salat: Näkökulmia koulutukseen ja kasvatukseen* (pp. 87–109). Tampere University Press. https://urn.fi/URN:ISBN:978-952-03-0500-0.
Kornelakis, A., & Petrakaki, D. (2020). Embedding employability skills in UK higher education: Between digitalization and marketization. *Industry and Higher Education, 34*(5), 290–297. https://doi.org/10.1177/0950422220902978
Kostiainen, E., Ukskoski, T., Ruohotie-Lyhty, M., Kauppinen, M., Kainulainen, J., & Mäkinen, T. (2018). Meaningful learning in teacher education. *Teaching and Teacher Education, 71*(April), 66–77. https://doi.org/10.1016/j.tate.2017.12.009
Kristjánsson, K., Fowers, B., Darnell, C., & Pollard, D. (2021). Phronesis (practical wisdom) as a type of contextual integrative thinking. *Review of General Psychology, 25*(3), 239–257. https://doi.org/10.1177/10892680211023063
Krumrie, E. J., Newton, F. B., & Kim, E. (2010). A multi-institution look at college students seeking counseling: Nature and severity of concerns. *Journal of College Student Psychotherapy, 24*(4), 261–283. https://doi.org/10.1080/87568225.2010.509223
Kumpulainen, K., Vierimaa, S.-M., & Koskinen-Koivisto, E. (2019). Developing connective pedagogy in cultural research – a case study from the teachers' perspective in adopting a problem-based approach in higher education. *Education Sciences, 9*(4), 252. https://doi.org/10.3390/educsci9040252
Kyndt, E., Beauseart, S., & Zitter, I. (Eds.). (2022). *Developing connectivity between education and work: Principles and practices*. Routledge. https://doi.org/10.1111/teth.12232.
Kyndt, E., Dochy, F., Struyven, K., & Cascallar, E. (2011). The direct and indirect effect of motivation for learning on students' approaches to learning through the perceptions of workload and task complexity. *Higher Education Research and Development, 30*(2), 135–150. https://doi.org/10.1080/07294360.2010.501329
Lackritz, J. R. (2004). Exploring burnout among university faculty: Incidence, performance, and demographic issues. *Teaching and Teacher Education, 20*(7), 713–729. https://doi.org/10.1016/j.tate.2004.07.002
Lahti, M. (2015). Communicating interculturality in the workplace (Jyväskylä Studies in Humanities 262) [Doctoral dissertation, University of Jyväskylä]. JYX Digital Repository http://urn.fi/URN:ISBN:978-951-39-6317-0.
Lane, S. R. (2020). Addressing the stressful first year in college: Could peer mentoring be a critical strategy? *Journal of College Student Retention: Research, Theory & Practice, 22*(3), 481–496. https://doi.org/10.1177/1521025118773319
Lehto, R., Huhta, A., & Huuhka, E. (2019). *Kaikkien korkeakoulu? Raportti OHO!-hankkeessa vuonna 2018 tehdyistä korkeakoulujen saavutettavuuskyselyistä. OHO!-hanke 2019*. University of Turku. https://research.utu.fi/converis/portal/detail/Publication/44447917?lang=fi_FI.
Levin, M. E., Pistorello, J., Seeley, J. R., & Hayes, S. C. (2014). Feasibility of a prototype Web-Based Acceptance and Commitment Therapy prevention program for college students. *Journal of American College Health, 62*(1), 20–30. https://doi.org/10.1080/07448481.2013.843533
Lim, C. K., Haufiku, M. S., Tan, K. L., Ahmed, M. F., & Ng, T. F. (2022). Systematic review of education sustainable development in higher education institutions. *Sustainability, 14*(20), Article 13241. https://doi.org/10.3390/su142013241
Lindblom-Ylänne, S., Parpala, A., & Postareff, L. (2004). Challenges in analyzing change in students' approaches to learning. In D. Gijbels, V. Donche, J. T. E. Richardson, & J. Vermunt (Eds.), *Learning patterns in higher education* (pp. 232–248). Routledge.
Lindblom-Ylänne, S., Parpala, A., & Postareff, L. (2019). What constitutes the surface approach to learning in the light of new empirical evidence? *Studies in Higher Education, 44*(12), 2183–2195. https://doi.org/10.1080/03075079.2018.1482267
Lindblom-Ylänne, S., Trigwell, K., Nevgi, A., & Ashwin, P. (2006). How approaches to teaching are affected by discipline and teaching context. *Studies in Higher Education, 31*(3), 285–298. https://doi.org/10.1080/03075070600680539
Lipponen, L., & Kumpulainen, K. (2011). Acting as accountable authors: Creating interactional spaces for agency work in teacher education. *Teaching and Teacher Education, 27*(5), 812–819. https://doi.org/10.1016/j.tate.2011.01.001
Lonka, K. (2018). *Phenomenal learning from Finland*. Edita.
Luque-Reca, O., García-Martínez, I., Pulido-Martos, M., Lorenzo Burguera, J., & Augusto-Landa, J. M. (2022). Teachers' life satisfaction: A structural equation model analyzing the role of trait emotion regulation, intrinsic job satisfaction and affect. *Teaching and Teacher Education, 113*(103668), 1–10. https://doi.org/10.1016/j.tate.2022.103668
Mader, M., Benayas, J., & Michelsen, G. (2017). *Professional development in higher education for sustainable development*. Emerald Publishing Limited.
Mahon, K., Heikkinen, H. L. T., & Huttunen, R. (2019). Critical educational praxis in university ecosystems: Enablers and constraints. *Pedagogy, Culture & Society, 27*(3), 463–480. https://doi.org/10.1080/14681366.2018.1522663
Mali, P. (2021). Teaching university physics courses during the coronavirus pandemic (Covid-19). *The Physics Teacher, 59*, 414–416. https://doi.org/10.1119/5.0032461
Malinen, A. (2000). *Towards the essence of adult experiential learning: A reading of the theories of Knowles, Kolb, Mezirow, Revans and Schön [Doctoral dissertation, University of Jyväskylä, Department of Social Sciences and Philosophy]*. JYX Digital Repository. https://urn.fi/URN:ISBN:978-951-39-5905-0.
Marin, V. I., Jääskelä, P., Häkkinen, P., Juntunen, M., Rasku-Puttonen, H., & Vesisenaho, M. (2016). Seamless learning environments in higher education with mobile devices and examples. *International Journal of Mobile and Blended Learning, 8*(1), 51–68. https://doi.org/10.4018/IJMBL.2016010104
Mårtensson, K., Roxå, T., & Olsson, T. (2011). Developing a quality culture through the scholarship of teaching and learning. *Higher Education Research and Development, 30*(1), 51–62. https://doi.org/10.1080/07294360.2011.536972
Martin, A., Tarnanen, M., & Tynjälä, P. (2021). Narratives of professional development in a teachers' creative writing group. *New Writing, 18*(4), 480–495. https://doi.org/10.1080/14790726.2021.1900274
Marton, F., & Säljö, R. (1976). On qualitative differences in learning: I. Outcome and process. *British Journal of Educational Psychology, 46*, 4–11. https://doi.org/10.1111/j.2044-8279.1976.tb02980.x
Meriläinen, M. (2014). Factors affecting study-related burnout among Finnish university students: Teaching-learning environment, achievement motivation and the meaning of life. *Quality in Higher Education, 20*(3), 309–329. https://doi.org/10.1080/13538322.2014.978136
Mezirow, J. (2000). *Learning as transformation: Critical perspectives on a theory in progress*. Jossey-Bass.
Minbashian, A., Huon, G. F., & Bird, K. D. (2004). Approaches to studying and academic performance in short-essay exams. *Higher Education, 47*(2), 161–176. https://doi.org/10.1023/B:HIGH.0000016443.43594.d1
Muñoz-Carril, P., Hernández-Sellés, N., Fuentes-Abeledo, E., & González-Sanmamed, M. (2021). Factors influencing students' perceived impact of learning and satisfaction in computer-supported collaborative learning. *Computers & Education, 174*(104310), 1–14. https://doi.org/10.1016/j.compedu.2021.104310
Nelson Laird, T. F., Shoup, R., Kuh, G. D., & Schwarz, M. J. (2008). The effects of discipline on deep approaches to student learning and college outcomes. *Research in Higher Education, 49*(6), 469–494. https://doi.org/10.1007/s11162-008-9088-5
Nespor, J. (1987). The role of beliefs in the practice of teaching. *Journal of Curriculum Studies, 19*(4), 317–328. https://doi.org/10.1080/0022027870190403
Nevgi, A., & Korhonen, V. (2016). Pedagoginen johtaminen yliopiston keskijohdon johtamistyössä. *Kasvatus, 47*(5), 419–433. https://urn.fi/URN:NBN:fi:ELE-1818065.
Norton, L., Richardson, J. T. E., Hartley, J., Newstead, S., & Mayes, J. (2005). Teachers' beliefs and intentions concerning teaching in higher education. *Higher Education, 50*(4), 537–571. https://doi.org/10.1007/s10734-004-6363-z

Ödalen, J., Brommesson, D., Gissur, Ó., Erlingsson, G. O., Schaffer, K. J., & Fogelgren, M. (2019). Teaching university teachers to become better teachers: The effects of pedagogical training courses at six Swedish universities. *Higher Education Research and Development, 38*(2), 339–353. https://doi.org/10.1080/07294360.2018.1512955

Orozco, M., Gijbels, D., & Timmerman, C. (2019). Empirical conceptualisation of integrative learning. A focus on theory-practice integration in technical vocational education and training. *Vocations and Learning, 12*, 405–424. https://doi.org/10.1007/s12186-019-09223-2

Orozco, M., Gijbels, D., & Timmerman, C. (2021). Conceiving the relationship between theory and practice in T-VET. An in-depth study on key actors' epistemological perspectives. *Journal of Vocational Education and Training, 73*(3), 392–412. https://doi.org/10.1080/13636820.2020.1715468

Owens, T. L. (2017). Higher education in the sustainable development goals framework. *European Journal of Education, 52*(4), 414–420. https://doi.org/10.1111/ejed.12237

Paavola, S., Lipponen, L., & Hakkarainen, K. (2004). Models of innovative knowledge communities and the three metaphors of learning. *Review of Educational Research, 74*(4), 557–576. https://doi.org/10.3102/00346543074004557

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*(3), 307–332. https://doi.org/10.3102/00346543062003307

Pekrun, R., & Linnenbrink-Garcia, L. (Eds.). (2014). *International handbook of emotions in education*. Routledge.

Pereira, D., Flores, M. A., & Niklasson, L. (2016). Assessment revisited: A review of research in assessment and evaluation in higher education. *Assessment & Evaluation in Higher Education, 41*(7), 1008–1032. https://doi.org/10.1080/02602938.2015.1055233

Pintrich, P. R., & Zusho, A. (2007). Student motivation and self-regulated learning in the college classroom. In R. P. Perry, & J. C. Smart (Eds.), *The scholarship of teaching and learning in higher education: An evidence-based perspective* (pp. 731–810). Springer. https://doi.org/10.1007/978-94-010-0245-5_2.

Poikela, S., & Moore, I. (2011). PBL challenges both curriculum and teaching. In T. Barrett, & S. Moore (Eds.), *New approaches to problem-based learning: Revitalising your practice in higher education* (pp. 229–238). Routledge. https://doi.org/10.4324/9780203846926.

Popova, M., Kraft, A., Harshman, J., & Stains, M. (2021). Changes in teaching beliefs of early-career chemistry faculty: A longitudinal investigation. *Chemistry Education: Research and Practice, 22*(2), 431–442. https://doi.org/10.1039/D0RP00313A

Postareff, L., & Lindblom-Ylänne, S. (2011). Emotions and confidence within teaching in higher education. *Studies in Higher Education, 36*(7), 799–813. https://doi.org/10.1080/03075079.2010.483279

Postareff, L., Lindblom-Ylänne, S., & Nevgi, A. (2008). A follow-up study of the effect of pedagogical training on teaching in higher education. *Higher Education, 56*(1), 29–43. https://doi.org/10.1007/s10734-007-9087-z

Puolakanaho, A., Tolvanen, A., Kinnunen, S. M., & Lappalainen, R. (2018). Burnout-related illbeing at work: Associations between mindfulness and acceptance skills, worksite factors, and experienced well-being in life. *Journal of Contextual Behavioral Science, 10*, 92–102. https://doi.org/10.1016/j.jcbs.2018.09.003

Pyhältö, K., Toom, A., Stubb, J., & Lonka, K. (2012). Challenges of becoming a scholar: A study of doctoral students' problems and well-being. *ISRN Education*, 1–12. https://doi.org/10.5402/2012/934941, 2012.

Räsänen, P., Lappalainen, P., Muotka, J., Tolvanen, A., & Lappalainen, R. (2016). An online guided ACT intervention for enhancing the psychological wellbeing of university students: A randomized controlled clinical trial. *Behaviour Research and Therapy, 78*, 30–42. https://doi.org/10.1016/j.brat.2016.01.001

Regehr, C., Glancy, D., & Pitts, A. (2013). Interventions to reduce stress in university students: A review and meta-analysis. *Journal of Affective Disorders, 148*(1), 1–11. https://doi.org/10.1016/j.jad.2012.11.026

Riivari, E., Malin, V., Jääskelä, P., & Lukkari, T. (2020). University as a workplace: Searching for meaningful work. *Teaching in Higher Education, 25*(3), 286–304. https://doi.org/10.1080/13562517.2018.1563061

Rodgers, C. R., & Scott, K. H. (2008). The development of the personal self and professional identity in learning to teach. In M. Cochran-Smith, S. Feiman-Nemser, D. J. McIntyre, & K. E. Demers (Eds.), *Handbook of research on teacher education* (pp. 732–755). Routledge.

Rönkkönen, S., Mattsson, M. T., Virtanen, V., Pyhältö, K., & Inkinen, M. (2022). The nexus between study burnout profiles and social support -the differences between domestic (Finnish) and international master's degree students. *Behavioral Sciences, 12*(3), 79. https://doi.org/10.3390/bs12030079

Saarela, M., Heilala, V., Jääskelä, P., Rantakaulio, A., & Kärkkäinen, T. (2021). Explainable student agency analytics. *IEEE Access, 9*, 137444–137459. https://doi.org/10.1109/access.2021.3116664

Schmidt-Unterberger, B. (2018). The English-medium paradigm: A conceptualisation of English-medium teaching in higher education. *International Journal of Bilingual Education and Bilingualism, 21*(5), 527–539. https://doi.org/10.1080/13670050.2018.1491949

Scott, K. M. (2016). Change in university teachers' e-learning beliefs and practices: A longitudinal study. *Studies in Higher Education, 41*(3), 582–598. https://doi.org/10.1080/03075079.2014.942276

Silander, C., & Stigmar, M. (2021). *What university teachers need to know – perceptions of course content in higher education pedagogical courses*. The International Journal for Academic Development. https://doi.org/10.1080/1360144X.2021.1984923 (ahead-of-print), 1–14.

Silverman, D. (2010). *Doing qualitative research: A practical handbook* (3rd ed.). SAGE.

Singer-Brodowski, M. (2017). Pedagogical content knowledge of sustainability: A missing piece in the puzzle of professional development of educators in higher education for sustainable development. *International Journal of Sustainability in Higher Education, 18*(6), 841–856. https://doi.org/10.1108/IJSHE-02-2016-0035

Skaniakos, T., & Piirainen, A. (2019). The meaning of peer group mentoring in the university context. *International Journal of Evidence-Based Coaching and Mentoring, 17*(1), 19–33. https://doi.org/10.24384/EKNZ-S730

Soini, T., Pietarinen, J., & Pyhältö, K. (2016). Leading a school through change – principals' hands-on leadership strategies in school reform. *School Leadership & Management, 36*(4), 452–469. https://doi.org/10.1080/13632434.2016.1209179

Stahl, G., & Hakkarainen, K. (2021). Theories of CSCL. In U. Cress, C. Rosé, A. F. Wise, & J. Oshima (Eds.), *International handbook of computer-supported collaborative learning* (pp. 23–43). Springer.

Stenfors-Hayes, T., Weurlander, M., Owe Dahlgren, L., & Hult, H. (2010). Medical teachers' professional development – perceived barriers and opportunities. *Teaching in Higher Education, 15*(4), 399–408. https://doi.org/10.1080/13562517.2010.493352

Sternberg, R., & Glück, J. (2021). *Wisdom: The psychology of wise thoughts, words, and deeds*. Cambridge. https://doi.org/10.1017/9781108894296.006

Stes, A., & Van Petegem, P. (2014). Profiling approaches to teaching in higher education: A cluster-analytic study. *Studies in Higher Education, 39*(4), 644–658. https://doi.org/10.1080/03075079.2012.729032

Stigmar, M. (2008). Faculty development through an educational action programme. *Higher Education Research and Development: Strategic Educational Development, 27*(2), 107–120. https://doi.org/10.1080/07294360701805242

Stough, T., Ceulemans, K., & Cappuyns, V. (2021). Unlocking the potential of broad, horizontal curricular assessments for ethics, responsibility and sustainability in business and economics higher education. *Assessment & Evaluation In Higher Education, 46*(2), 297–311. https://www.tandfonline.com/doi/full/10.1080/02602938.2020.1772718.

Su, Y.-H. (2011). The constitution of agency in developing lifelong learning ability: The 'being' mode. *Higher Education, 62*, 399–412. https://doi.org/10.1007/s10734-010-9395-6

Tait, H., & Entwistle, N. J. (1996). Identifying students at risk through ineffective study strategies. *Higher Education, 31*(1), 97–116. https://doi.org/10.1007/BF00129109

Talvio, M., & Lonka, K. (Eds.). (2021). *International approaches to promoting social and emotional learning in schools: A framework for developing teaching strategy*. Routledge. https://doi.org/10.4324/9781003093053.

Tangney, S. (2014). Student-centred learning: A humanist perspective. *Teaching in Higher Education, 19*(3), 266–275. https://doi.org/10.1080/13562517.2013.860099

Thompson, J. (2022). A guide to abductive thematic analysis. *Qualitative Report, 27*(5), 1410–1421. https://doi.org/10.46743/2160-3715/2022.5340

Tømte, C. E., Fossland, T., Aamodt, P. O., & Degn, L. (2019). Digitalisation in higher education: Mapping institutional approaches for teaching and learning. *Quality in Higher Education, 25*(1), 98–114. https://doi.org/10.1080/13538322.2019.1603611

Toom, A., & Husu, J. (2020). Tacit knowledge and knowing at the core of individual and collective expertise and professional action. In E. Kallio (Ed.), *Development of adult thinking: Interdisciplinary perspectives on cognitive development and adult learning* (pp. 141–155). Routledge.

Toom, A., & Pyhältö, K. (2020). *Kestävää korkeakoulutusta ja opiskelijoiden oppimista rakentamassa: Tutkimukseen perustuva selvitys ajankohtaisesta korkeakoulupedagogiikan ja ohjauksen osaamisesta*. Opetus- ja kulttuuriministeriön julkaisuja; No. 2020:1). Valtioneuvoston kanslia http://urn.fi/URN:ISBN:978-952-263-696-6.

Tremblay, K., Lalancette, D., & Roseveare, D. (2012). *Assessment of higher education learning outcomes*. OECD.

Trigwell, K., & Prosser, M. (1993). Approaches adopted by teachers of first year university science courses. *Research and Development in Higher Education, 14*, 223–228.

Trigwell, K., & Prosser, M. (2004). Development and use of the approaches to teaching inventory. *Educational Psychology Review, 16*, 409–425. https://doi.org/10.1007/s10648-004-0007-9

Tuononen, T., Parpala, A., & Lindblom-Ylänne, S. (2020). Complex interrelations between academic competences and students' approaches to learning – mixed-methods study. *Journal of Further and Higher Education, 44*(8), 1080–1097. https://doi.org/10.1080/0309877X.2019.1648776

Tynjälä, P. (2009). Connectivity and transformation in work-related learning – Theoretical foundations. In M. -L. Stenström, & P. Tynjälä (Eds.), *Towards integration of work and learning: Strategies for connectivity and transformation* (pp. 11–37). Springer. https://doi.org/10.1007/978-1-4020-8962-6_2.

Tynjälä, P., Beauseart, S., Zitter, I., & Kyndt, E. (2022). Connectivity between education and work: Theoretical models and insights. In E. Kyndt, S. Beauseart, & I. Zitter (Eds.), *Developing connectivity between education and work: Principles and practices* (pp. 3–14). Routledge.

Tynjälä, P., & Gijbels, D. (2012). Changing world: Changing pedagogy. In P. Tynjälä, M.-L. Stenström, & M. Saarnivaara (Eds.), *Transitions and transformations in learning and education* (pp. 205–222). Springer.

Tynjälä, P., Heikkinen, H. L., & Kallio, E. K. (2022). Integrating work and learning in higher education and VET: A theoretical point of view. In M. Malloch, L. Cairns, K. Evans, & B. O'Connor (Eds.), *The SAGE Handbook of learning and work* (pp.

62–79). SAGE. https://doi.org/10.4135/9781529757217.n5.
Tynjälä, P., Kallio, E., & Heikkinen, H. (2020). Professional expertise, integrative thinking, wisdom and phronēsis. In E. K. Kallio (Ed.), *Development of adult thinking: Interdisciplinary perspectives on cognitive development and adult learning* (pp. 156–174). Routledge.
Tynjälä, P., Pennanen, M., Markkanen, I., & Heikkinen, H. L. T. (2021). Finnish model of peer-group mentoring: Review of research. *Annals of the New York Academy of Sciences, 1483*(1), 208–223. https://doi.org/10.1111/nyas.14296
Tynjälä, P., Virolainen, M., Heikkinen, H., & Virtanen, A. (2020). Promoting cooperation between educational institutions and workplaces: Models of integrative pedagogy and connectivity revisited. In C. Aprea, V. Sappa, & R. Tenberg (Eds.), *Connectivity and integrative competence development in vocational and professional education and training (VET/PET)* (pp. 19–39). Franz Steiner Verlag.
Uiboleht, K., Karm, M., & Postareff, L. (2019). Relations between students' perceptions of the teaching-learning environment and teachers' approaches to teaching: A qualitative study. *Journal of Further and Higher Education, 43*(10), 1456–1475. https://doi.org/10.1080/0309877X.2018.1491958
Ursin, J., Vähäsantanen, K., McAlpine, L., & Hökkä, P. (2020). Emotionally loaded identity and agency in Finnish academic work. *Journal of Further and Higher Education, 44*(3), 311–325. https://doi.org/10.1080/0309877X.2018.1541971
Välimaa, J. (2012). The relationship between Finnish higher education and higher education research. In S. Ahola, & D. M. Hoffman (Eds.), *Higher education research in Finland* (pp. 27–48). University of Jyväskylä. Finnish Institute for Educational Research.
Viberg, O., Hatakka, M., Bälter, O., & Mavroudi, A. (2018). The current landscape of learning analytics in higher education. *Computers in Human Behavior, 89*, 98–110. https://doi.org/10.1016/j.chb.2018.07.027
Virtanen, A., & Tynjälä, P. (2019). Factors explaining the learning of generic skills: A study of university students' experiences. *Teaching in Higher Education, 24*(7), 880–894. https://doi.org/10.1080/13562517.2018.1515195
Walkington, J. (2002). A process for curriculum change in engineering education. *European Journal of Engineering Education, 27*(2), 133–148. https://doi.org/10.1080/03043790210129603
Weurlander, M., & Stenfors-Hayes, T. (2008). Developing medical teachers' thinking and practice: Impact of a staff development course. *Higher Education Research and Development, 27*(2), 143–153. https://doi.org/10.1080/07294360701805283
Wilkinson, R. (2018). Content and language integration at universities? Collaborative reflections. *International Journal of Bilingual Education and Bilingualism, 21*(5), 607–615. https://doi.org/10.1080/13670050.2018.1491948
Winch, C. (2010). *Dimensions of expertise*. A conceptual exploration of vocational knowledge. Continuum. https://doi.org/10.1111/teth.12232
Yilmaz, Y., Lal, S., Tong, X. C., Howard, M., Bal, S., Bayer, I., et al. (2020). Technology-enhanced faculty development: Future trends and possibilities for health sciences education. *Medical Science Educator, 30*, 1787–1796. https://doi.org/10.1007/s40670-020-01100-1
Yin, R. K. (2014). *Cases study research design and methods* (5th ed.). SAGE.
Yin, Y., Toom, A., & Parpala, A. (2022). International students' study-related burnout: Associations with perceptions of the teaching-learning environment and approaches to learning. *Frontiers in Psychology, 13*, Article 941024. https://doi.org/10.3389/fpsyg.2022.941024
Young, C., & Perović, N. (2016). April 28). ABC curriculum design: An openly licenced tool for universities. Open Education Working Group. http://education.okfn.org/abc-curriculum-design-an-openly-licensed-tool-for-universities/.
Zappa-Hollman, S. (2018). Collaborations between language and content university instructors: Factors and indicators of positive partnerships. *International Journal of Bilingual Education and Bilingualism, 21*(5), 591–606. https://doi.org/10.1080/13670050.2018.14919466