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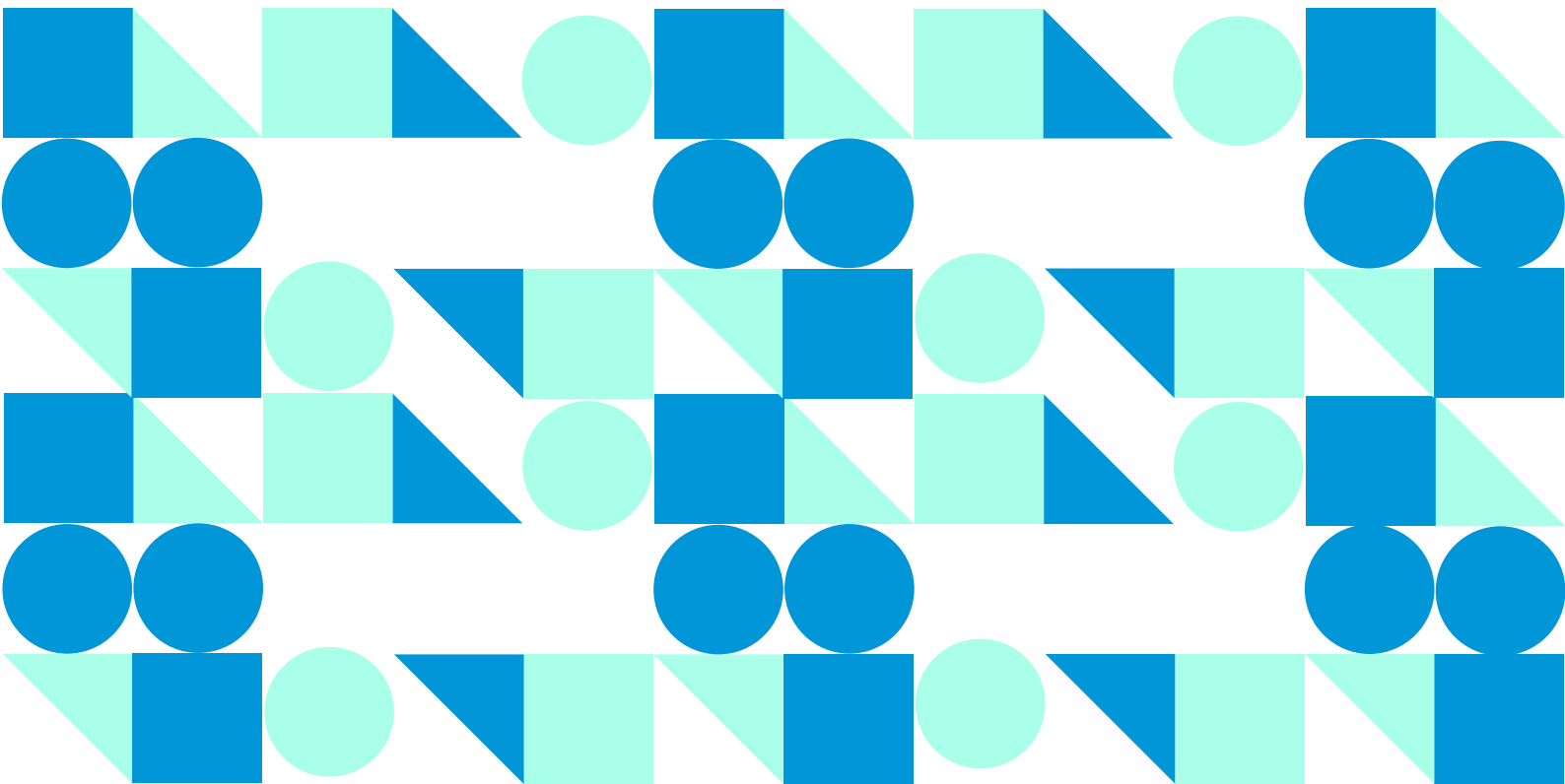
Research paper

The influence of learning outcomes on pedagogical theory and tools



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The **European Centre for the Development of Vocational Training** (Cedefop) is the European Union's reference centre for vocational education and training, skills and qualifications. We provide information, research, analyses and evidence on vocational education and training, skills and qualifications for policy-making in the EU Member States.
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Europe 123, Thessaloniki (Pylea), GREECE
Postal: Cedefop service post, 570 01 Thermi, GREECE
Tel. +30 2310490111, Fax +30 2310490020
Email: info@cedefop.europa.eu
www.cedefop.europa.eu

Jürgen Siebel, *Executive Director*
Mario Patuzzi, *Chair of the Management Board*

Foreword

This publication was prepared as part of the Cedefop project The shift to learning outcomes: rhetoric or reality. The purpose of this research is to analyse the conceptual, structural and political factors influencing the transformation of intended learning outcomes into achieved learning outcomes. It is considered as a first step in a long-term research strategy aiming to understand better the conditions for high quality vocational education, training and learning. The research focuses on initial vocational education and training, in schools and apprenticeships, in the 27 Member States of the EU as well as Iceland and Norway.

The research is divided into five separate but interlinked themes.

(a) Addressing the influence of learning outcomes on pedagogical theory and tools.
(b) Focusing on the influence of learning outcomes-based curricula on teaching practices (in school-based programmes).
(c) Examining the influence of learning outcomes-based curricula in company training (part of apprenticeship programmes that takes place in companies).
(d) Mapping and analysing the influence of learning outcomes on assessment.
(e) Developing suggestions for the way forward supporting stakeholders and policy-makers in addressing future challenges and opportunities in this area.

This report examines how the learning outcomes approach is embedded in and promoted by theories of teaching and learning (epistemology, didactics, pedagogy). It aims to analyse selected theories and the way these are presented to teacher training institutions in selected regions/countries. This allows for a better understanding of the explicit and implicit assumptions made regarding the role and relevance of learning outcomes.

Results of the research illustrate differences across countries in whether and how the learning outcomes approach is embedded in theories underpinning VET teacher training programmes. Learning outcomes approaches are presented to future VET practitioners in all countries studied and positive views are expressed by providers of training to VET teachers and trainers. While acknowledging the usefulness of the approach (as one that promotes student-centred learning, responds to student diversity, encourages student accountability, and fosters collaboration with colleagues), teachers and trainers

often criticise how learning outcomes are defined and implemented. The countries studied show there is still much to be done to achieve effective implementation of learning outcomes in VET.

Jürgen Siebel	Loukas Zahilas
Executive Director	Head of Department for VET and Qualifications

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The research was carried out by the consortium led by PPMI Group, UAB (Lithuania) and coordinated by Milda Venckutė-Jakštė. This publication is based on the contributions of Simon Broek, Andrew McCoshan, Pedro Costa, Tomaž Deželan, Mariya Dzhengozova, Suzanne Gatt, Mariia Kolokolova, Janet Looney, Jouko Luomi, Karin Luomi-Messerer, Andreia Monteiro, Donatas Pocius, Barbara Santibañez, Stella Tangiyan, Milda Venckutė-Jakštė, Jerzy Wisniewski and Jostein Kvisteroy, Cedefop expert. We would also like to thank Enfal Zeynep Zucin for her comments and support throughout the preparation of this publication.

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Executive summary

The learning outcomes approach, stating what a learner knows, is able to do and understand following a completed learning sequence, has been firmly embedded in European education, training and employment policies and practices since 2004. Learning outcomes now influence the description and definition of curricula, programmes and qualifications, but the impact of these statements on teaching, learning and assessment is less researched and more difficult to judge, especially due to the emergence of many online provisions. The wider challenge lies in transforming learning outcomes intentions and statements into actual outcomes of learning; into knowledge, skills and competences acquired and used by individuals at work or in broader life contexts. The research is considered as a first step in a long-term research strategy aiming to understand better the conditions for high quality vocational education, training and learning. This publication summarises the results of the first strand of work; it aims at exploring the influence of learning outcomes on mainstream pedagogical theory, and the training of VET teachers and trainers in selected countries. The key research questions are given below.

Box 1. **Research questions**

1. To what extent and how is the learning outcomes (competence) approach addressed and embedded in theories that underpin the training of VET teachers and trainers?
2. To what extent and how is the learning outcomes (competence) approach – influencing the teaching methodologies and tools – presented to future teachers?
   - What is the impact of the learning outcomes approach on the actual implementation of teaching, learning and assessment in everyday practice?
3. To what extent are learning outcomes, in the relevant theories and methodologies, seen as
   - accepted and/or part of dominant dogma,
   - controversial and/or challenged,
   - unknown and/or ignored?

Source: Cedefop.

Methodological approach

A multi-faceted research design was developed, drawing on information from a range of sources:

(a) extensive literature review to develop the analytical framework aimed at exploring the shift to learning outcomes in VET across thematic strands of the study and the 10 countries examined in depth;
(b) literature review on the conceptual foundations of the learning outcomes approach, main teaching and learning theories, and how these address the learning outcomes approach;
(c) 10 country case studies (covering Bulgaria, Ireland, France, Lithuania, Malta, the Netherlands, Poland, Portugal, Slovenia and Finland) to explore the presentation of the learning outcomes approach to VET teachers and trainers, including:
    (i) desk research in the national languages of the 10 countries studied;
    (ii) interviews with organisations that offer initial and/or continuous training for VET teachers and trainers;
(d) scoping interviews with VET authorities, social partners and other stakeholders to explore national arrangements on learning outcomes;
(e) an online survey of VET practitioners targeting VET teachers, in-company trainers, heads of VET providers, and curriculum coordinators.

Analytical framework

The analytical framework of the study builds on three main research perspectives: macro, meso, and micro. The first perspective concerns the logical steps from intended to achieved learning outcomes. It helps to define learning outcomes and operationalise what the use of them implies in practice. The second perspective maps levels at which actions are (or may be) taken to implement the learning outcomes approach. The final perspective discusses stakeholders involved and the change processes taking place at the three levels regarding the use of learning outcomes in VET.

Key findings

Learning outcomes embedded in pedagogical theories

Different criticisms noted in theory were recollected by interviewed representatives of providers of training for VET teachers and trainers. They are predominantly supportive of the learning outcomes approach, as it is associated with benefits for both teachers and learners. However, several providers are dissatisfied with how the learning outcomes (competence) approach is implemented in VET. Achieving an effective implementation of learning outcomes in VET still requires effort and time.

This paper illustrates differences in how the learning outcomes approach is embedded in the theoretical underpinnings of VET teacher training programmes in the countries examined. In Bulgaria, Lithuania, Poland, Portugal and Slovenia no implicit or explicit references ([1]) to learning outcomes in pedagogical theories presented were found. In countries such as France and Malta explicit links between the two were identified. In Ireland, the Netherlands and Finland, references to learning outcomes approaches in theoretical underpinnings of VET teacher training programmes were found to be implicit. This shows that the nature and the extent to which learning outcomes approaches are addressed in the theories that underpin VET teacher training differ.

Views on learning outcomes among the providers of training to VET teachers and trainers

The publication reveals that learning outcomes approaches are presented to future VET practitioners in practically all countries studied, and positive views are expressed by providers of training to VET teachers and trainers. This is regardless of learning outcomes not being visible in the theoretical underpinnings of VET teacher training programmes. In countries such as Ireland, Lithuania, the Netherlands and Portugal this is done explicitly, through general courses on how to apply learning outcomes approaches. Such explicit embeddedness, though, is rare as it depends on how learning outcomes are used in occupational, educational standards, qualifications and/or national curricula.

Autonomy of the providers of training for VET teachers and trainers

In terms of national level arrangements, providers of training for VET teachers and trainers have relatively high autonomy to decide on the contents of training programmes they offer. While many use this autonomy to introduce the learning outcomes approach to current and future VET teachers and trainers, this mainly results from the initiative of the providers themselves. None of the 10 countries studied mandate any learning theories or approaches for initial or continuous training of VET practitioners. Only 1 out of 10 countries (Malta) advises training providers on how to present learning outcomes to current and future VET

([1]) Implicit embedding refers to student teachers being familiar with the principles of applying learning outcomes. Explicit embedding refers to explicit descriptions of learning content, modules and tasks by which student teachers learn how to use the learning outcome statements of their occupation field in designing and implementing their teaching and learning unit.

teachers and trainers. This might signify lack of encouragement for providers of training for VET teachers and trainers to introduce the learning outcomes approach.

Perspective and experience of teachers

Over 75% of VET teachers and trainers surveyed have been introduced to some aspects of the learning outcomes approach during their training. Yet half of survey respondents feel ready to work with a curriculum based on learning outcomes, with 39% feeling not ready. This indicates that the training received is likely insufficient. Over two-thirds of surveyed VET teachers and trainers claim that introducing learning outcomes in their country has had an influence on their teaching/training practice, whereas others criticise how learning outcomes are defined and implemented in teaching.

Concluding reflections

The training of VET teachers and trainers often includes presentation of different teaching and learning theories, yet different factors might hinder the use of learning outcomes in VET. These concern aspects such as competing perspectives on learning outcomes in theory; lack of explicit guidance for the providers of training for VET teachers and trainers on how to present learning outcomes to future VET practitioners; and dissatisfaction with an unclear definition and use of learning outcomes in VET (e.g. perception of learning outcome statements in reference documents being too vague or prescriptive). In contrast, other aspects may act as enablers, such as positive views towards learning outcomes or a perception of its multiple benefits for both learners and teachers. Learning outcomes are also considered a tool for increasing the relevance and quality of VET programmes or a way to improve learner-centredness and facilitate active and open learning; these aspects directly influence the way and the extent to which learning outcomes move from intentions to actual outcomes.

CHAPTER 1.
Introduction

This publication presents findings of the first strand of the study The shift to learning outcomes; rhetoric or reality? It aims at exploring the influence of learning outcomes on mainstream pedagogical theory, and the training of VET teachers and trainers in selected countries. The research questions below concern initial and continuous training of VET teachers and trainers. Their starting point the epistemological, pedagogical and didactic theories used by selected teacher training institutions (see Box 1).

The rationale behind such a focus is that initial professional preparation and continuing professional development of VET teachers and trainers influences teaching, learning and assessment approaches that they adopt in their practice (Oleson & Hora, 2013). The exposure of VET teachers and trainers to learning outcomes as part of their initial or continuous training may enable them to apply the learning outcomes approach. In contrast, lack of attention to learning outcomes in training VET teachers and trainers may hinder the use of learning outcomes in VET schools and apprenticeships. In this context, exploring what VET teachers and trainers are taught as part of their initial and continuous training helps understand factors that enable and hinder the use of learning outcomes in everyday teaching, assessment, and learning in VET. In turn, this is intended to help achieve the goal of the whole 3-year study, which is to explore the conceptual, structural, and political factors influencing the transformation of intended learning outcomes into achieved ones (Chapter 2).

In this context, 'learning outcomes' shall be understood as 'statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence' (European Parliament and the Council, 2008). However, the learning outcomes approach encompasses much more than simple use of such statements established in qualification frameworks, occupational standards, curricula, and VET programmes. The shift to learning outcomes implies a wide range of changes across VET from how systems are governed to teaching, learning and assessment approaches and methods (see also Annex 1, Table 9. Signals of the use of learning outcomes approaches in VET). In practice, this concerns the move towards demand-driven, output-oriented and learner-centred education and training (Adamson & Morris, 2007; Sloane & Dilger, 2005; Frommberger &

Krichewsky, 2012). The approach is associated with teachers becoming facilitators of active learning rather than instructors of learning (Frommberger & Krichewsky, 2012); learners taking an active role in the planning of their own learning and monitoring of progress (Adam, 2006); increased emphasis on teacher collaboration and greater interdisciplinarity of curriculum (Frommberger & Krichewsky, 2012; NCCA, 2019b); and greater focus on skills and competences (rather than knowledge), mixing theory and practice, and applying experiential and active learning approaches (Frommberger & Krichewsky, 2012; Cedefop, 2012). The report analyses whether and how these and other principles linked with the learning outcomes approach are embedded in main pedagogical theories and presented to current and future VET teachers and trainers as part of their initial and continuous training.

VET teachers are understood as those who teach general or vocational, practical or theoretical subjects within VET programmes in schools. In contrast, VET trainers are perceived as mentors, tutors, and instructors that work with VET students (e.g. interns, apprentices) in workplaces. VET teachers and trainers working at secondary and post-secondary non-tertiary levels (ISCED 3-4, EQF 3-4), and their initial and continuous training is the focus of this report. Initial training, otherwise called initial professional preparation, refers to pre-service courses that future VET teachers and trainers undertake. According to Cedefop (2022b), such training typically takes place at tertiary level in Europe, as part of bachelor and/or master studies, often leading to a dual – subject-specific and teaching – qualification. Continuous training, otherwise called continuing professional development (CPD), concerns in-service training that VET teachers and trainers undertake after they complete initial education and receive a qualification in teaching. CPD can take different forms, ranging from formal activities such as attending conferences, internships, courses, seminars, and webinars to more informal modes such as talking to colleagues, peer observation, reading professional literature, or watching educational videos (Abakah, 2023). In this report, the focus is on formal and structured activities organised by various training providers including higher education institutions, government bodies, private research and training centres, teacher associations and chambers of commerce.

In the sections below, Cedefop's work on learning outcomes is described in detail (Chapter 2). An overview of the research background, analytical approach, and methodology of the first strand of this study is then presented (Chapter 3 and Chapter 4). This is followed by the discussion of main fieldwork results, comparing the findings across 10 selected countries concerning policy and administrative arrangements (Chapter 5), perspective and practice of

training providers (Chapter 6), and perspective and experience of VET teachers and trainers (Chapter 7), all in relation to the learning outcomes approach. The publication concludes by providing answers to research questions and an assessment of the state of play across 10 countries studied (Chapter 8). Limitations of the research as well as emerging avenues for future work are reflected as well.

Forthcoming publications will explore the influence of learning outcomes-based curricula on teaching practices (in school-based programmes and in company training) as well as assessment arrangements (Chapter 2).

CHAPTER 2.

Setting the scene

The learning outcomes approach has been systematically promoted at EU level since 2004. While questioned and contested by some (Hussey & Smith, 2003, 2008; Allais, 2014), practically all European countries are now actively using learning outcomes (or competence) statements when defining, reviewing, and refining the content and profile of their education, training and skills provisions and strategies practices (Cedefop, 2009; 2016b; 2017; 2021; 2022a; 2022b; 2022c).

The current study builds on the premise that most European countries are now actively using learning outcome (or competence) statements to define, review and refine their qualifications, VET curricula, and programmes. However, the simple definition of learning outcomes does not by default trigger the change in teaching, learning, and assessment in VET: little is known about the actual impact of learning outcomes on teaching, learning, and assessment practice in vocational schools and apprenticeships and there is a tendency to underestimate the variety of factors influencing the take-up and successful application of the learning outcomes approach. In this context, the study aims to explore the transformation of intended learning outcomes into achieved learning outcomes, and map factors influencing this transformation. The focus is on initial VET, including schools and apprenticeships. 10 countries were selected for in-depth analysis: Bulgaria, Ireland, France, Lithuania, Malta, the Netherlands, Poland, Portugal, Slovenia and Finland. This selection helps to ensure a sufficient geographic, institutional, and thematic variety of cases ([2]).

([2]) To select 10 countries for case studies, four types of country characteristics were considered. These included general geopolitical factors (geographic area, EU membership, and market economy and welfare state) that may have an influence on VET governance and, therefore, a direct or indirect impact on the transformation of intended learning outcomes into achieved ones. Features of VET systems were also considered, including aspects such as VET conception, type of VET system, type of apprenticeship system, share of upper secondary students in VET, and share of students in combined work- and school-based upper secondary IVET. Other characteristics relevant to the study were reflected on, including the introduction of outcome-oriented curriculum development in IVET, NQF stage of development, the existence of a validation strategy, and outcomes of skills provision.

The study aims to cover four distinct areas.

(a) The influence of learning outcomes on mainstream pedagogical theory and training of VET teachers and trainers: how the learning outcomes approach is addressed, embedded, and seen in theories that underpin the training of VET teachers and trainers; how the learning outcomes approach is presented to VET teachers and trainers; how such presentation is framed by national policies and administrative arrangements; and how it impacts actual teaching, learning, and assessment practice in VET.

(b) The influence of learning outcomes-based VET curricula on teaching practice in schools: how learning outcomes are used, who is responsible for this, whether such use is influenced by the teaching (and learning) environment, and what resources the shift to learning outcomes requires; how different ways of formulating learning outcomes prompt tensions in teaching practice; and whether students are aware of the learning outcomes approach or not.

(c) The influence of learning outcomes-based curricula in company training, including apprenticeships: how externally imposed learning outcomes influence interactions between VET teachers, trainers/company instructors, work colleagues and apprentices; how teachers/ trainers/ instructors interpret learning outcomes and adapt them to the workplace; and what is the overall impact of learning outcomes on workplace learning.

(d) The influence of learning outcomes on assessment: the relationship between curriculum statements/intentions and assessment processes; how teaching and learning are steered by assessment criteria, the role of learning outcomes in formative and summative assessment, the influence of online and hybrid teaching and learning on assessment; and how complex learning outcomes are assessed.

The final part of the study will build on the four preceding ones and further develop suggestions/lessons for the way forward supporting VET practitioners and policy-makers in addressing future challenges and opportunities in this area.

CHAPTER 3.

Overarching analytical framework

The analytical framework of this study builds on three main perspectives: macro, meso, and micro. The first perspective concerns the logical steps from intended to achieved learning outcomes. It helps to define learning outcomes and operationalise what the use of them implies in practice. The second perspective maps levels at which actions are (or may be) taken to implement the learning outcomes approach. The third perspective focuses on stakeholders involved and the change processes taking place at the three levels regarding the use of learning outcomes in VET. Together, these perspectives provide a framework which makes it visible where learning outcomes are influential and what influences them, and whether intentions of VET systems are likely to be achieved. Each perspective is described in more detail in Annex 1 which lays out the overarching analytical framework of the whole 3-year study of which this publication is a part: The shift to learning outcomes; rhetoric or reality?.

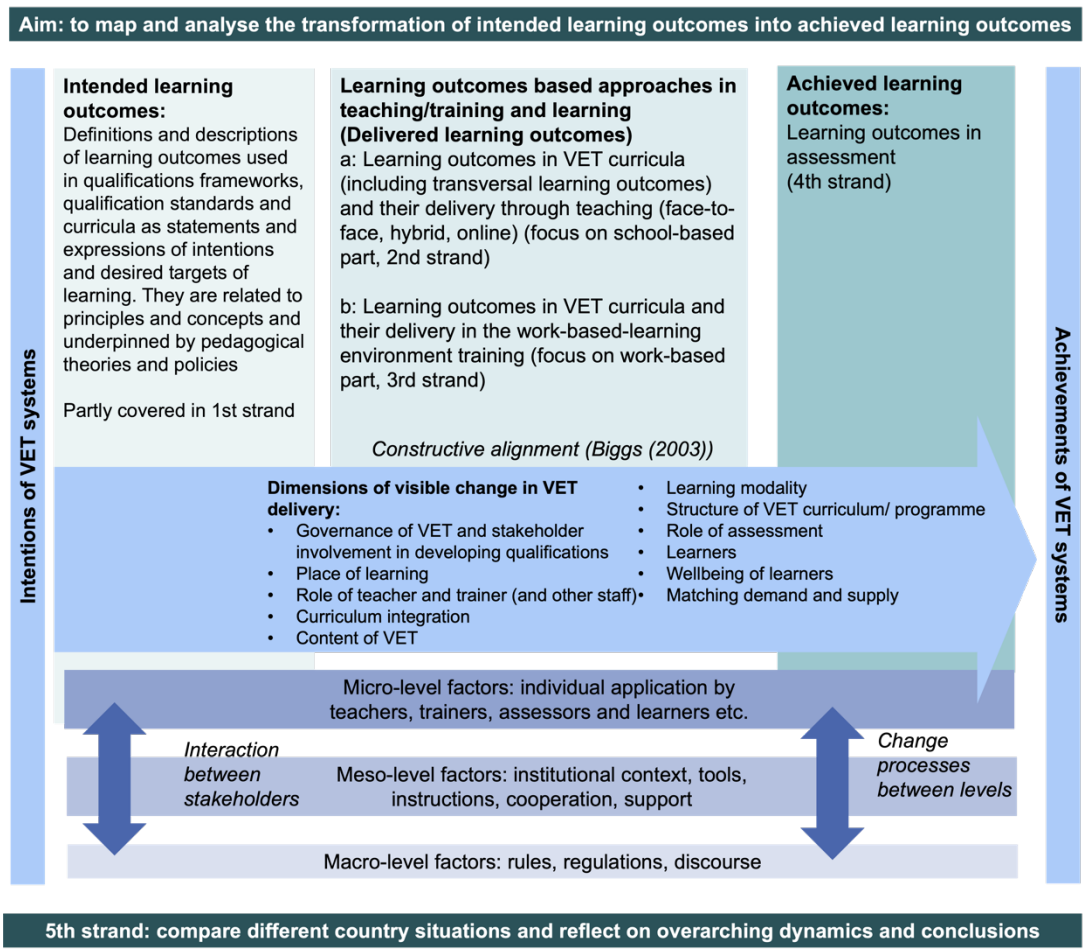
Taken together, the three perspectives help to understand the process of transformation from intentions to achievements. They indicate a distinction between the abstract (theoretical) and the concrete (practical) application of learning outcomes. The ‘logical’ steps denote the transition from the intended to the achieved. The third perspective also brings in the reality about change not always being ‘logical’. Together, these perspectives capture the extent to which learning outcomes are applied and help to understand the transformation process from intentions to achievements.

This publication features results of the first strand of the study. It explores what VET teachers and trainers are taught about learning outcomes. This is critical to understanding the factors that influence the transformation of intended learning outcomes into achieved ones, as illustrated below. In essence, this publication helps to explore to what extent initial and continuous training of VET teachers and trainers may act as a factor enabling or, to the contrary, hindering, the shift to learning outcomes at all levels, from national policy to teaching practice and assessment.

The following figure illustrates this and helps to reveal and analyse these complexities. It allows to see the extent to which learning outcomes are applied in each step and each level in individual countries. For instance, it may be that learning outcomes are well represented in standards and curricula but, in the

end, do not feature in teaching and learning ('delivery of learning outcomes') or assessment approaches.

Figure 1. **Overarching analytical framework of the study**



Source: Authors.

Based on the analytical framework, a 'heatmap' is developed for each country. The figure below shows a fictive illustration. These heatmaps will form the basis for summative comparisons and European level reflections on the conceptual, structural and political factors influencing the transformation of intended learning outcomes into achieved learning ones.

Table 1. **How learning outcomes are used to get from intended to achieved learning outcomes: example, Member State A.**

	Intended learning outcomes: Learning outcomes in VET teacher and trainer preparation (as proxy of how intentions in using learning outcomes are expressed in national VET systems)	Delivered learning outcomes a: Learning outcomes in VET curricula and their delivery through teaching in school-based learning environments	Delivered learning outcomes b: Learning outcomes in VET curricula and their delivery in work-based environments	Achieved learning outcomes: Learning outcomes in assessment
Macro-level factors: rules, regulations, discourse	Policies are in place using learning outcomes	Recommendations on learner-centred pedagogies are in place.	Guidelines for work-based learning use learning outcomes	Assessment guidelines use learning outcomes
Meso-level factors: institutional context, tools, instructions, cooperation, support	Textbooks refer to learning outcomes Programmes are generally described in terms of learning outcomes	Schools still structure the delivery in terms of courses described in terms of input factors. Still teacher-centred approaches to VET delivery are in place.	Work-based learning environments use learning outcomes-based tools (checklists whether LOs are shown by the learner)	Examinations still focus on task completion, duration of training and knowledge components
Micro-level factors: individual application by teachers, trainers, assessors, and learners	Teachers still think in terms of input factors	Teachers still work with input-factors (number of assignments, tasks completed)	Trainers are trained to use learning outcomes	Assessors pay attention to whether learners have achieved the learning outcomes and use skills demonstrations

Note: Green means that learning outcomes are used in VET to a large extent; Red illustrates that input-based factors prevail in VET.

Source: Authors.

The example of the heatmap above shows a specific pattern for one hypothetical country. Although learning outcomes may be used at the macro level, the transition to learning outcomes at the meso and micro levels is uneven. Especially in the school-based VET programmes, input orientation implying the focus on resources, processes and activities provided to learners (rather than final outcomes of learning) may still prevail. In such cases, emphasis is on the materials used for instruction, methods and strategies harnessed for content delivery, place and duration of learning, number and content of activities and assignments. The work-based component of VET, on

the other hand, is more prone to using learning outcomes. Rather than putting resources, processes and activities at the centre, work-based VET typically focuses on the expected final outcomes of learning, allowing more flexibility in the progress towards their achievement.

Based on this analytical framework, it becomes possible to map how learning outcomes approaches are implemented in different EU countries. In the effort to analyse this process, the following indicators provide a starting point which needs to be systematically extended and deepened throughout the study:

(a) awareness of the learning outcomes approach among policy-makers, teacher training providers and teachers, particularly through learning outcomes' embeddedness in pedagogical theories and methodologies that (future) teachers are taught;
(b) ownership of the learning outcomes approach among teacher training providers and teachers. A need to examine whether learning outcomes are imposed on stakeholders or the result of dialogue and shared construction;
(c) guidance and support teachers receive on the learning outcomes approach, e.g. access to continuous professional development opportunities, teaching and learning materials, additional funding;
(d) perceived usefulness of the learning outcomes approach and competing perspectives towards learning outcomes between policy-makers, teacher training providers and teachers (if any); these may concern:
    (i) treatment of learning outcomes as a tool for increasing the relevance and quality of VET programmes versus a way to increase top-down influence/bureaucratic control;
    (ii) understanding of the learning outcomes approach to improve learner-centredness and facilitate active and open learning instead of leading to 'dumbing down' of the learning process;
    (iii) perception of learning outcomes as too vague and ambiguous instead of too explicit and controlling compared to a proper tool.

There is a tendency to underestimate the variety of the aforementioned factors influencing the take up and successful application of the approach. Asserting that the writing of learning outcomes by default triggers change may undermine the overall credibility of the approach. Therefore, through the analytical framework, the desk research and the evidence collected from selected countries (Section 3.1), the study attempts to identify and analyse factors involved in transforming intentions into achievements as well as understand the explicit and implicit assumptions made regarding the role and relevance of learning outcomes.

3.1. Methodological approach

Following the analytical framework, the publication builds on the fieldwork carried out in 10 countries: Bulgaria, Ireland, France, Lithuania, Malta, the Netherlands, Poland, Portugal, Slovenia and Finland. This included desk research and interviews with teacher training providers at the national level. To complement these, findings from scoping interviews and the survey were used, where relevant. The selection of countries aims to ensure sufficient geographic, institutional, and thematic focus considering contextual features, features of the VET system, other features relevant to the study, as well as outcomes of skills provision, as presented below.

(a) Contextual features focus on general geo-political factors that may have an influence on VET governance and, therefore, have a direct or indirect impact on the transformation of intended learning outcomes into achieved learning outcomes. These features include:
    (i) geographic area;
    (ii) EU membership;
    (iii) market economy and the welfare state.

(b) Features of the VET system constitute aspects that may influence the transformation of intended learning outcomes into achieved ones in conceptual and structural terms. These features include:
    (i) VET conception;
    (ii) Type of VET system;
    (iii) Share of upper secondary students in VET;
    (iv) Share of students in combined work- and school-based upper secondary IVET.

(c) Other features relevant to the topic of the study, including aspects such as the introduction of outcome-oriented curriculum development in IVET, NQF stage of development, and the existence of a validation strategy.

(d) Outcomes of skills provision, measured by using the ranking on the Cedefop European Skills Index, learning participation and outcomes, and the employment rate of recent graduates (20-34) with a medium-level vocational qualification.

Desk research was carried out in the national languages of the 10 countries selected and, where relevant, English. National experts reviewed various primary and secondary sources of data. These included relevant legal acts, policy, programming documents, white papers and other national level documentation, teacher training curricula of selected teacher training providers, and, where available, applied research studies and academic articles.

National experts conducted semi-structured interviews with organisations that offer initial and/or continuous training for VET teachers and trainers. The interviews targeted management/administration (e.g. those deciding on teacher training programmes to offer, providing support to teacher trainers/lecturers within their organisation, designing new courses/CPD opportunities). Where relevant, individual teacher trainers were also interviewed. On average, five people per country were interviewed.

The purpose of scoping interviews was two-fold: to ensure stakeholder support and involvement throughout the study, and to explore national/regional policy and administrative arrangements on learning outcomes as well as the views of authorities and social partners. The scoping interviews targeted national VET authorities, social partner organisations and other relevant stakeholders such as VET provider associations, professional organisations for teachers, and learner organisations. In total, 64 scoping interviews were conducted, averaging 6-7 interviews per country. These were not intended to support this strand of the study only but their findings are used throughout this publication, where relevant.

A cross-cutting survey of VET teachers, trainers, school principals and curriculum coordinators was launched on 25 May 2023. As of mid-October 2023, 482 responses have been collected. In this publication, survey findings are used to analyse the perspectives and practices of VET teachers and trainers (Chapter 7).

CHAPTER 4.

Research background and approach

4.1. Research background

To grasp the scope and the focus of this publication, the diversity of VET teachers and trainers, and the variety of their initial and continuous training arrangements across the EU Member States needs to be considered. This is discussed in Sections 4.1.1 and 4.1.2 below, focusing on 10 case study countries selected for in-depth analysis. Section 4.1.3 discusses the gaps in the literature on the training of VET teachers and trainers on the learning outcomes approach.

4.1.1. Diversity of VET teachers and trainers across EU Member States

According to Cedefop (2022b; 2016b), VET teachers and trainers can be categorised into the following groups of professionals:

(a) teachers of general and vocational theoretical subjects in VET schools/centres;
(b) teachers of practical subjects in school workshops or simulated learning environments;
(c) apprentice tutors (mentors) in companies;
(d) practical training instructors who accompany students during work-based learning parts of school-based programmes, which take place in companies.

Across national VET systems, the most common lines of distinction include subject taught (general or vocational/occupation/technical/profession-related), the learning dimension (theoretical or practical) and the role of a teacher or trainer (Cedefop, 2022b). Other lines of distinction, less popular, but occurring across at least two EU Member States, include the learning place (school or workplace/training centre), task of a VET teacher or trainer (supervision or instruction/provision of knowledge), and education level (compulsory or post-compulsory) (Cedefop, 2022b).

Throughout this publication, an attempt is made to accommodate such diversity of VET teachers and trainers across EU Member States and explore the initial and continuous training that different groups of VET teachers and trainers participate in. However, earlier research by Cedefop (2022) shows that requirements differ for initial professional preparation and continuing professional development of VET teaching and training professionals in school-

based and work-based settings. For this reason, there is differentiation between VET teachers and trainers in terms of their function and place of employment.

In line with Cedefop's earlier work, in this publication, VET teachers are treated as those who mainly work in VET schools, and focus on teaching, whereas trainers are understood as employees of companies who focus on accompanying VET students during apprenticeships or other forms of work placement (Cedefop, 2016a). Yet these definitions may not be in line with how VET teachers and trainers are understood in the national context. Annex 2 provides a detailed overview of the types of VET teaching and training professionals in 10 countries studied in depth. This helps to 'translate' the terminology used in 10 countries and facilitates the comparative analysis and cross-country conclusions in this publication.

4.1.2. Initial and continuous training of VET teachers and trainers across EU Member States

Initial and continuous training arrangements for VET teachers and trainers across EU Member States differ, though there are commonalities. Both are critical to understanding the scope of this research report and contextualising the examples provided from different countries.

As regards initial teacher training, most European countries offer it and recognise teacher qualifications at levels ranging from EQF levels 5 to 8 (Cedefop, 2016a). For future vocational subject teachers in schools, this often takes place as part of bachelor and master degree programmes that lead to a dual – subject-specific and teaching – qualification (Cedefop, 2022). Yet most EU Member States do not have specific initial training programmes for teachers of general subjects in VET schools (Cedefop, 2023). Overall, it appears that 'teachers of general subjects are trained in general teacher training programmes and teachers of vocational theory usually have a degree in a professional field such as engineering or hospitality' (Cedefop, 2016a, p. 2). In many countries, initial teacher training also includes traineeship in schools under the supervision of an experienced teacher (Cedefop, 2016a). In some countries, new teachers start their careers with an introductory period of up to 1 year under the supervision of an experienced teacher (Cedefop, 2016a).

Qualification requirements for VET teachers and trainers in the 10 countries studied are described in Annex 2. Table 10 helps to understand what comprises initial professional preparation of VET teachers and trainers, and what institutions provide such initial training for VET teachers and trainers in case study countries.

For CPD, in most EU Member States participation is mandatory for VET teachers, though not all of these have set duration requirements for CPD (Cedefop, 2022). CPD requirements, regulations, provisions, and monitoring vary significantly across EU Member States. They also vary across the providers, which often include higher education institutions, teacher training institutes, in-service training institutions, national centres or agencies specialising in VET, non-State providers of adult education, VET schools, municipalities, companies and teacher unions (Cedefop, 2016a). The content of CPD is usually unregulated, not monitored and decided by the providers themselves (Cedefop, 2016a). CPD arrangements for VET teachers and trainers in the 10 countries studied are described in Annex 2, Table 10.

All the above is only a short summary of existing arrangements, yet it reveals that much is already known about the systems and policies of initial and continuous training of VET teachers and trainers. Nevertheless, the contents of these training programmes remain less explored, particularly in respect of theories, methodologies and approaches covered during them, including the learning outcomes approach.

4.1.3. Learning outcomes in initial and continuous training for VET teachers and trainers

While the evidence base on the use of learning outcomes has grown, research on learning outcomes in initial and continuous training of VET teachers and trainers remains limited. This is particularly true for analyses on whether future VET teachers and trainers are introduced to the topic of learning outcomes as part of their training. These are few, which makes it difficult to assess to what extent the definition of learning outcomes in qualification frameworks, occupational standards, and curriculum have affected the contents of initial and continuous training of VET teachers and trainers, and, in turn, influenced teaching practice in VET.

Existing studies on learning outcomes in training for VET teachers and trainers, in contrast, focus on the use of learning outcomes *per se*. This relates to the definition and application of learning outcome statements in the context of higher education, going beyond the scope of this publication; however, reviewing the knowledge base on the topic helps reveal gaps in the literature and the added value of this research.

For instance, Cedefop's study published in 2016 attempted to provide a comprehensive overview of regulatory frameworks of teacher professional preparation and requirements of initial teacher education. It also explored the role of learning outcomes in various aspects of teacher education, including the

preparation of programming documents and quality assurance. To a lesser extent, the report featured examples of how learning outcomes are covered in pre- and in-service training of teachers, including practical training at schools (Cedefop, 2016b). It was observed that 'authorities setting the requirements for initial teacher education programmes mostly defined the duration of the programme and ECTS points but do not always refer to explicit and clearly defined learning outcomes' (Cedefop, 2016b, p. 136). Research showcased the use of learning outcomes at different levels of the hierarchical structure of regulations and requirements for teacher training, such as when individual institutions come up with 'rules and procedures that define the frameworks for the design of curricula, study programmes and syllabuses' (Cedefop, 2016b, p. 140). Findings on training of future teachers revealed that teachers used the learning outcomes approach during their courses, but they did not always openly refer to the learning outcomes concept (Cedefop, 2016b). While the report featured several relevant insights, it focused more on the use of learning outcomes in teacher education rather than on whether or not the learning outcomes approach is presented to current and future VET teachers and trainers to enable them to apply it in their subsequent teaching practice.

The Halász report (2017) echoed these concerns, indicating that while teacher educators were open to designing a curriculum for future teachers based on learning outcomes, there was little evidence that teacher educators were preparing these student teachers to use learning outcomes in school-level teaching. Halász argues that the lack of attention to curriculum development in initial teacher education programmes may be because academics do not view school-level teachers as curriculum developers. A second possibility, he suggests, is that, given the newness of the approach, teacher educators may not have been ready to transfer this approach to student teachers. It might also be that teaching competences for curriculum design is rarely a part of initial teacher education, particularly in countries that do not have a tradition of school-based curriculum development. This latter argument can be reinforced by the vagueness of guidelines on what knowledge and skills teachers should possess for the effective design of curriculum (Drudy, Gunnerson & Giplin, 2008; European Commission, 2012; Halász, 2017). Halász notes that the 2016 Cedefop study shows the need for both top-down and bottom-up strategies for change. A driving force for bottom-up strategies could be newly educated teachers with an understanding of the use of learning outcomes. Insufficient attention to bottom-up strategies, he suggests, produced formal structures but no real changes in the daily behaviour and practices of institutions and individuals. He argues that '… programmes promoting the use [of learning

outcomes approaches] at institutional and individual level can be successful only if individuals and institutions have high level adaptive or absorptive capacities' (p. 84). Changes of this nature involve slow and complicated processes, and many programmes promoting the use of learning outcomes approaches do not include the appropriate provisions to enhance this process (Halász, 2017).

Sweetman (2017), in a separate study on the use of the learning outcomes approach in teacher education programmes in Norwegian and English universities, found that learning outcomes are influencing course planning and improving transparency of teacher education programmes and supporting dialogue among faculty and new teachers. At the same time, individuals interviewed for the study expressed mixed feelings on the learning outcomes approach. They noted the importance of transparency facilitated by the learning outcomes approach, but also believed that certain types of learning are difficult to express in terms of learning outcomes. Sweetman also observes a lack of theoretical and practical clarity regarding learning outcomes (including the emphasis on learner-centred approaches) that may help to explain the limited influence of the approach. Both clarity and consistency in application are necessary for a full shift to learning outcomes, as Sweetman argues (Sweetman, 2017).

The lack of empirical research, as the above illustrates, shows the need to clarify further the relationship between the learning outcomes approach and teaching and learning practices. This report aims at filling this identified research gap. In this context, evidence shows that there is no mandated curriculum that must be taught to (future) VET teachers and trainers (Cedefop, 2016a). Most of the institutions have the freedom to develop their own programmes, including whether to introduce the learning outcomes approach; whether they do this or not remains unknown. Learning about this is critical to discussing the shift to learning outcomes, and whether it has become a reality.

4.2. Analytical approach

Sections 4.2.1 to 4.2.3 set out the analytical framework used to collect and analyse data for this publication. The framework is broadly inspired by the overarching analytical approach applied in all strands of the study The shift to learning outcomes; rhetoric or reality? (Chapter 3). It has been tailored to facilitate the analysis of the influence of learning outcomes on mainstream pedagogical theory, and the training of VET teachers and trainers, which is the focus of the first strand of the study and this publication.

Sections below elaborate on three aspects. Section 4.2.1 describes mainstream teaching and learning theories and how they link with the learning outcomes approach. Section 4.2.2 reveals possible signals of the learning outcomes approach being covered in training for VET teachers and trainers. Section 4.2.3 provides a reflection on key levels of implementation of the learning outcomes approach, including national policy, providers of training for VET teachers and trainers, and VET teachers and trainers themselves. Together, these three perspectives set the foundation for data collection and data analysis for this publication.

4.2.1. Teaching and learning theories underpinning the learning outcomes approach

A brief overview of the academic literature on the conceptual foundations of the learning outcomes approach, as well its critiques, are provided in this section. Main teaching and learning theories are described, and ways in which the learning outcomes approach is grounded in or aligned with these theories are reflected upon.

Sections 4.2.1.1 and 4.2.1.2 illustrate the extent to which learning outcomes, in relevant theories and methodologies, are accepted and/or part of dominant dogma, controversial and/or challenged, unknown and/or ignored. They inform the analysis of the practice and views of providers of training for VET teachers and trainers. This helps assess how theories introduced to these VET professionals link with the learning outcomes approach, and what theoretical considerations have influenced provider perceptions of the learning outcomes approach. This is critical to contextualising and interpreting the findings presented in Chapter 6. For instance, arguments for and against the use of learning outcomes noted by different schools of thought have been reiterated by the providers of training for VET teachers and trainers, expressing their views on learning outcomes in VET in their country (Section 6.2). The theory overview helps to recognise such lines of thinking and contextualise them within broader debates. Similarly, theories and pedagogies that, in this section, are established as linked with the learning outcomes approach, serve as a reference point, allowing to assess whether or not the learning outcomes approach is presented in individual training programmes for VET teachers and trainers explored in 10 countries studied (Section 6.1).

4.2.1.1. *Behaviourism and constructivism*

The concept of learning outcomes is rooted in both behaviourist and constructivist theories of learning, which are two very different schools of

thought (Keevy & Chakroun, 2015; Cedefop, 2010; Cedefop, 2016b). The tensions between these two learning theories are at the core of most debates on design and application of the learning outcomes approach.

The behaviourist school of thought proposes that learning occurs through interactions with the external environment and is outwardly observable (objective). Motivation to learn is tied to rewards and punishments, with rewards, for example, strengthening the connection between stimuli and responses. Some behaviourists also study learners' internal 'mental states' to explain various observations.

The constructivist school of thought, in contrast, proposes that individuals learn and construct knowledge through experience and social interactions. Learning is a contextualised activity, and is entwined with the learners' social identity, values and relationships. Learning is most effective when teachers base instruction on prior knowledge and beliefs, and then track changes in learner conceptions and ability to use new knowledge and skills in the next phases of learning.

Academic critiques of the learning outcomes approach tend to centre on behaviourist interpretations. For example, Campbell (2014) critiques learning outcomes as simplistic stimulus-response paradigm of learning (clearly rooted in the behaviourist school of thought), where only observable and measurable outcomes count. He argues that statements of intended learning outcomes (what a learner should know, be able to do and understand) 'assume a linear, non-paradoxical, cleanly defined world.' O'Brien and Brancaleone (2011) take the position that learning outcomes represent the commodification of education, arguing that the approach '…legitimate[s] new knowledge forms through a particular, materialist, ideological construction that is key to understanding theoretical assumptions, conceptual meanings, and action purposes attaching to learning outcomes'. Allais (2012) suggests that the learning outcomes approach treats knowledge '…as information that can be divided into little bits that can be selected and combined at will' (Allais, 2014, p. 139), ignoring the ways in which educational knowledge is organised in bodies of hierarchical conceptual relationships.

Other commentators argue that constructivist learning theories are potentially compatible with the learning outcomes approach. While the learning outcomes approach is, by definition, associated with the focus on the product of learning, Hager (2004) argues that it is not necessarily inconsistent with the idea of learning as a process, where learners' competence development is seen as 'emergent', and teaching is focused on identifying and addressing gaps between what learners are able to do, and the intended learning outcomes (see

also (Mulcahy, 1996). Hager (2004) argues that '[w]hen learning is viewed primarily as a process, rather than as a product, different features are emphasised. Learning becomes a process that changes both the learner and the environment with the learner being part of the environment rather than a detached spectator. This view of learning underlines its contextuality, as well as the influence of cultural and social factors. It is holistic in that it points to the organic, whole person nature of learning, including the importance of dispositions and abilities. Nor is conceiving learning as a process inconsistent with intelligent use of performance descriptors [in national qualifications frameworks]…' (p. 425, see also Prøitz, 2014)

Other commentators (e.g. Dobbins, 2014) highlight that learning outcomes may be designed to allow for the more open-ended, exploratory learning highlighted in constructivist learning processes. They suggest that learning outcomes in curricula (and assessment) can be designed to support learning of complex and ambiguous processes where learners need to develop their skills for critical thinking and problem-solving. For example, learning outcomes may focus on the development of competences to 'design', 'create', and 'reflect' as they develop competences for higher order thinking.

For several commentators, a combination of behaviourist and constructivist theories (and related approaches as explored briefly below) may be appropriate in vocational education and training depending on learning aims and the learner's level of development. This is a central concern for the current study on whether and how VET teachers and trainers refer to different learning theories to support different intended learning outcomes; this will be explored in more detail in the second strand of the study, which focuses on teaching practice in schools rather than teacher training. For example, Young (2011) suggests that behaviourist learning theories are more appropriate for novice learners or for learning of specific tasks, so long as the intended learning outcomes are achievable (i.e. at the right level). As learners build on foundation knowledge, constructivist approaches which build on prior knowledge, and which encourage learner reflection and higher-order competences such as critical thinking, creativity and problem-solving are more appropriate.

4.2.1.2. *Other theories of learning*

Beyond constructivist and behaviourist schools of thought, other theories of learning are also relevant for teaching, learning and assessment in VET. These include cognitivism, situated learning, experiential learning, transformative learning, social learning theory and connectivism (Table 2).

However, as learning outcomes have their roots in both behaviourist and constructivist theories of learning (Keevy & Chakroun, 2015; Cedefop, 2010; Cedefop, 2016b), academic literature on the learning outcomes approach has mainly centred on these two schools of thought. Literature on other influential learning theories which include an explicit discussion of the learning outcomes approach could not be identified. In this context, two observations are critical: Bjørnåvold's caveat, that active and open learning are not necessarily indicative of a shift to learning outcomes, and Sweetman's observation, that both theoretical and practical clarity related to learning outcomes as well as learner-centred approaches are needed (Bjørnåvold, 2019; Sweetman, 2017).

Nevertheless, there are potential ways in which other theories of teaching and learning are compatible with and may be adapted to the learning outcomes approach ([3]). These are highlighted below (see author commentary on the right) and help to reflect on what contents of teacher training can be interpreted as the presentation of the learning outcomes approach or at least as principles aligned with it (Section 6.1).

([3]) Although not a learning theory, the work of John Hattie has been influential as he undertook an empirical study on measurable factors influencing student learning outcomes in schools.

Table 2. **Learning theories**

Learning theories	Brief description	Associated pedagogy and instructional approaches	Commentary on potential alignment with the learning outcomes approach
Behaviourism	In the early 1900s, John B. Watson argued that research methods in psychology should focus only on observable and quantifiable behaviours. All behaviours are considered as reactions to stimulus. Behaviourist learning theory emphasises that learning takes place through 'conditioning' and 'reinforcement'. 'Radical behaviourism', sometimes described as 'behaviourism with a capital B', focuses only on observable stimulus and reactions.	Teaching methods are likely to focus on reinforcement through repetition (e.g. drills), feedback based on marks and examination scores, as well as teacher feedback on whether students are on the right track or not. See, for example, https://blog.teamsatchel.com/what-is-behaviourism	Learning outcomes have roots in behaviourist theories of learning. The focus on observable and quantifiable behaviours is well suited to learning outcomes such as manual tasks, social interactions, and other observable competences.
Constructivism	Constructivist theory puts the learner at the centre of the learning process. Learners are considered as active constructors of knowledge rather than passive recipients. Learners not only assimilate new information, but also accommodate new knowledge and competences based on prior knowledge and experiences. Learners are aware of their cognition and can regulate their learning. Constructivism builds on Jean Piaget's early work on cognitivism (below), Lev Vygotsky's work in the early 1930s on social constructivism and the zone of proximal development (e.g. the zone where the learner is supported by a more knowledgeable peer or teacher to take next steps in their learning) and Jerome Bruner's work in the 1960s. Bruner proposed that learners construct new knowledge based on their prior knowledge, and that instruction should be scaffolded.	Learning is structured so that learners may build from foundation knowledge in a subject area to higher levels of understanding. Constructivist classrooms feature active dialogue, participatory learning, inquiry-based learning, and so on. Learning may also be self-directed. Student motivation to learn and to engage in the construction of new knowledge is essential. Learner motivation, as well as effective sequencing of knowledge and concepts in curriculum and lesson plans, are key elements. See for example, http://www.simplypsychology.org/constructivism.html	Learning outcomes also have roots in constructivist theories of learning. Constructivist approaches are well suited to the development of competences such as problem-solving, critical thinking, and creativity. These competences are more challenging to measure and involve processes that are less easily observable. In addition, constructivist learning theories emphasise the importance of learner identity and the importance of learner agency, action and value (Hoskins and Deakin Crick, 2010).

Learning theories	Brief description	Associated pedagogy and instructional approaches	Commentary on potential alignment with the learning outcomes approach
Cognitivism	Jean Piaget introduced cognitivism in the 1930s. Piaget argued that knowledge should be broken into basic units, or schemata. Within cognitive processes, schemata are based on perceiving; recognizing; conceiving; and reasoning. Cognitivism has been described as behaviorism with a 'small b'. Cognitivism relies on scientific observation, but also provides room for hypotheses on 'mental states' and on thinking and learning. Cognitivism also emphases the importance of prior knowledge in learning new things.	Cognitivist teaching strategies may include classroom discussion, dialogue and questioning to reveal learner reasoning, the use of concept maps, opportunities for learners to reflect, and so on. See for example https://study.com/learn/lesson/cognitivism-education-learning-theory.html	No literature making explicit links between cognitivism and learning outcomes was identified. Nevertheless, cognitivist learning theories may be well suited to teaching of observable behaviours, and for use with curricula setting out basic units and schemata for learning. The emphasis on identification of prior learning allows teachers to identify gaps in students' current knowledge and the intended learning outcomes (i.e. through formative assessment). The emphasis on the learner's mental state is in line with efforts to adapt next steps to meet diverse learner needs and support their progress toward intended learning outcomes.
Social learning theory	Albert Bandura introduced social learning theory in the early 1960s. This considers how both environmental and cognitive elements influence learning and behaviour. The main elements include observing, modelling, imitating behaviours, attitudes and emotional reactions of others. Social learning theory proposes that learning is based on cognitive as well as environmental factors. Individuals do not automatically imitate behaviours, but also consider the relationship between their behaviours and the consequences and consider whether a new or different	Social learning theory is grounded in behaviourism. Teaching and learning strategies include observation, imitation, verbal descriptions of processes, and positive reinforcement. See, for example, http://www.educationcorner.com/social-learning-theory/	No literature making explicit links between social learning theory and learning outcomes was identified. Nevertheless, social learning theory may be suited to learning of observable/quantifiable skills and competences in different contexts (e.g. a workplace), and with peers and mentors.

Learning theories	Brief description	Associated pedagogy and instructional approaches	Commentary on potential alignment with the learning outcomes approach
	response is required. This is aligned with 'small b' behaviourism (in contrast with social constructivism).		
Situated learning	Lave and Wenger introduced theories on situated learning (also referred to as situated cognition) in the early 1990s to describe how individuals acquire professional skills. They argue that knowledge, skills and competences cannot be treated as isolated or decontextualised entities and/or subjects but need to be addressed in context (i.e. where they are situated). Learning takes place in a community of practice. Activities, learning artefacts, and identities (i.e. the individual's self-understanding and self-perception within the community of practice) are key elements. Learners develop expertise and move from novice to expert level as they have opportunities to practice.	Situated learning may include apprenticeship models, simulations (virtual or in a physical learning environment) Teachers /trainers may also include dialogue, questioning and quizzes to be sure learners understand key concepts, but the accent is placed in application of knowledge. See for example, https://blog.originlearning.com/4-ways-to-apply-the-situated-learning-theory/	No literature making explicit links between social learning theory and learning outcomes was identified. Nevertheless, situated learning is well suited to a more holistic approach to learning outcomes, with an emphasis on collective and individual competences/learning outcomes. Learner identity, agency and value are considered as important. The emphasis on dialogue, questioning and quizzes is in line with formative assessment, allowing teachers/trainers to identify and address gaps in students' current knowledge (i.e. through formative assessment).
Experiential learning	David Kolb's model of experiential learning, first introduced in the early 1970s, is based on a four-step learning process embedded in every learning: experience – reflect – think – act. Learning takes place through reflection on experience. Essential elements are: • the learner's active engagement in the learning experience; • the learner's ability to reflect on the experience;	Experiential teaching and learning methods include experiments, role play, field trips, apprenticeships, peer mentoring, and creative problem-solving sessions. See, for example, https://www.forbes.com/sites/forbescoachescouncil/2022/06/10/14-great-examples-of-experiential-learning-in-the-workplace/	No literature making explicit links between experiential learning theories and learning outcomes was identified. Nevertheless, experiential learning is well suited to active, learner-centred approaches to learning, and to more holistic approaches and learning outcomes such as problem-solving, creativity, and so on.

Learning theories	Brief description	Associated pedagogy and instructional approaches	Commentary on potential alignment with the learning outcomes approach
	• the use of analytical skills to conceptualise the experience and engage in meaning making; • the use of decision-making and problem-solving skills that make use of ideas developed in the learning experience. While learners may enter the cycle at any point, the steps are consecutive (and not simultaneous).		
Connectivism	George Siemens and Steven Downes first introduced the concept of 'connectivism' in the 2000s. They propose that technology is changing how individuals learn. Knowledge is distributed across networks, and within these networks, learning is based on recognition of patterns and connections between fields, ideas and concepts. Siemens and Downes (2008) propose eight principles of connectivism. • Learning and knowledge rests in the diversity of opinions. • Learning is a process of connecting. • Learning may reside in non-human appliances. • Learning is more critical than knowing. • Nurturing and maintaining connections are needed for continual learning. • The ability to see connections between fields, ideas, and concepts is a core skill. • Accurate, up-to-date knowledge is the aim of all connectivist learning. • Decision-making is a learning process. What we know today might change tomorrow. While there's a right answer now, it might be wrong tomorrow due to the constantly changing information climate.	The principles of connectivism share some features of situated learning. Contexts for learning extend to broader networks (including online). Connectivism also highlights the importance of collective competences: that no one individual can possess all competences needed. Workplace teams, therefore, need to include individuals with complementary competences. The principle of learning in 'non-human appliances' implies an important role for artificial intelligence in learning processes. See, for example, https://teachnthrive.com/teaching-ideas/general/what-is-connectivism-learning-theory-and-how-to-use-it-in-the-classroom/	No literature making explicit links between connectivist learning theories and learning outcomes was identified. Nevertheless, several features of connectivism – e.g. commonalities with situated learning and of the development of collective competences and workplace learning – might be adapted for the learning outcomes approach. In addition, the idea of learning in interaction with 'non-human appliances'/artificial intelligence is highly relevant as the development of AI to support teaching, learning and assessment is accelerating (taking both affordances and limits of the technology into account).

4.2.2. Signals of the learning outcomes approach being covered in training for VET teachers and trainers

Exploring how the learning outcomes (competence) approach is presented to VET teachers and trainers can be achieved by operationalising it; by identifying aspects and observing which signals show the approach is covered while training current and future VET practitioners. This section establishes a reference point for exploring curricula for VET teachers and trainers, and frames the analysis presented in Section 6.1.2.

It is essential to examine whether the concept of learning outcomes is introduced as part of initial and continuous training for VET teachers and trainers; if so, the role of learning outcomes in developing and renewing qualifications is likely to be covered as well. This comprises several aspects of the idealised model of the transformative journey of learning outcomes (Annex 1, Figure 11). These include the development or renewal of standards (occupational standards, qualification standards) and curricula, i.e. defining intended learning outcomes; delivery of VET (school-based, work-based, and combined programmes), i.e. using learning outcomes; assessment/examination/certification, i.e. determining achieved learning outcomes; and integration into the labour market/insertion in the occupation related to the qualification, i.e. realised learning outcomes. Such an idealised model is described in detail in Annex 1, Section 1.1. Following it, VET teachers and trainers shall be taught the following:

(a) how intended learning outcomes are identified and defined;
(b) how to use learning outcome statements while preparing for and planning the teaching;
(c) how to choose appropriate teaching methods and learning approaches that would help achieve the outcomes intended;
(d) how to assess learning outcomes achieved by students.

Signals of these aspects being covered in the curricula for VET teachers and trainers illustrate that learning outcomes approaches for current and future VET practitioners are presented explicitly.

Nevertheless, the introduction to learning outcomes approaches may not be as visible and straightforward and this might have implications for the teaching and learning practices: providers of training for VET teachers and trainers might opt for addressing learning outcomes approaches implicitly. In this context, the shift to learning outcomes concerns the move towards demand-driven, output-oriented, and learner-centred education and training (Adamson & Morris, 2007; Sloane & Dilger, 2005; Frommberger & Krichewsky, 2012) which is not always the case in initial and continuous training for VET teachers and trainers. The learning

outcomes approach is often associated with a number of principles: teachers becoming facilitators of active learning rather than instructors of learning (Frommberger & Krichewsky, 2012); learners taking an active role in the planning of their own learning and monitoring of progress (Adam, 2006); increased emphasis on teacher collaboration and greater interdisciplinarity of curriculum (Frommberger & Krichewsky, 2012; NCCA, 2019b); greater focus on skills and competences (rather than knowledge), mixing theory and practice, applying experiential and active learning approaches (Frommberger & Krichewsky, 2012; Cedefop, 2012); and greater use of criterion-referenced rather than norm-referenced measures in assessment. These and other dimensions associated with learning outcomes approaches are discussed in more detail in Annex 1 (Section 1.2). Signals of these aspects being covered in the curricula for VET teachers and trainers illustrate that learning outcomes approaches are presented, at least implicitly.

When assessing whether learning outcomes approaches are covered in training for VET teachers and trainers, it is critical to acknowledge that in some countries learning outcomes are closely linked with the concept of competences (Table 2). Competences can generally be understood as actually achieved learning outcomes, validated through the ability of the learner autonomously to apply knowledge and skills in practice, in society and at work. Learning outcomes are validated by their relationship to competences (Cedefop, 2012, p. 35). While the term competence is widely used throughout Europe, and in several countries substitutes the term learning outcomes, there are many different definitions and interpretations, creating some confusion when operating internationally. This is particularly true in 5 out of 10 countries studied. Table 2 below provides details on both concepts in the national context and helps understand references to competences and competence-based approaches made in Chapter 6.

Table 3. **Learning outcomes versus competences in studied countries**

Country	Learning outcomes versus competences
Bulgaria	The learning outcomes approach is mainly understood in relation to the competence-based approach. In this context, the learning outcomes approach is emphasised in relation to the acquisition of key competences.
Finland	Competence-based approach in VET provision is a well-established concept in Finland. It refers to, and includes, learning outcomes-approach, as it articulates both intended and achieved learning outcomes, but also goes beyond that to encompass elements necessary for the implementation of competence-based VET

Country	Learning outcomes versus competences
	provision. Competence-based approach refers to a change in pedagogical thinking from teaching and subject-centred to competence- and learner-centred approach. In the Finnish context, the terms competence-based approach and learning outcomes approach are used interchangeably.
France	The learning outcomes approach is translated as *approche par compétences* (competence-based approach). The concept of competences 'relates to the notion of combining (rather than accumulating) knowledge, expertise and interpersonal skills…these competences are expressed in terms of learning outcomes certified by an evaluation'. Although the new French Qualifications Framework includes the concept of learning outcomes (*acquis d'apprentissage*) in relation to the assessment of qualifications, vocational qualifications in upper secondary education are structured in blocks of assessable competences (*bloc de compétences*). However, the concept of *approche par compétences* is often used interchangeably with *acquis d'apprentissage*. In France the concept of *compétence* (competence) is used in general education and in vocational education and training (VET) in lieu of the term learning outcomes. Nevertheless, at least in the VET sector, competences are understood knowledge, skills, and attitudes that are expressed in terms of learning outcomes, which can be assessed and lead to a qualification.
Lithuania	The policy discourse on VET centres on competences and competence-based education but, for curriculum, learning outcomes are identified and defined in VET programmes. Based on interviews, the concept of competences is more established, but learning outcomes are now used and familiar as a concept to VET community. The main difference is that, at national level, policy documents typically refer to competences: key units comprising the modules of qualifications. The term 'learning outcomes' is mainly used in the context of VET curriculum and concerns smaller components of competences. Their use is particularly important to understand VET delivery, and how teaching, learning and assessment of competences is operationalised. While the two concepts – competences and learning outcomes – are closely linked, the context and timing of their introduction in Lithuania has been different.
Slovenia	The definition of competences is strongly process-oriented (development of skills) rather than goal-oriented or outcome-oriented. At the same time, the Slovenian definition of competences is also comprehensive, as it includes cognitive, functional and relational dimensions (Skubic-Ermenc et al., 2014). In VET, the emergence of learning

Country	Learning outcomes versus competences
	outcomes has caused confusion and the debate has been along the lines of whether it might be worth replacing or supplementing competences with learning outcomes, although there is a fundamental difference between a competence and a learning outcome. In the Slovenian context, the learning outcomes approach is defined as 'knowledge, skills and competences standardised at a given qualification level'.

Source: Authors, based on country research.

4.2.3. Levels of implementation of the learning outcomes approach

The shift to learning outcomes implies a wide range of changes across entire VET systems. To grasp the full scale of these changes, a distinction can be made between three levels: macro, meso, and micro. The understanding of these levels within the first strand of the study – focused on training of VET teachers and trainers – is discussed below.

At macro level, the focus is on the influence of national/regional policies and administrative arrangements for the presentation of learning outcomes to VET teachers and trainers (Chapter 5). This includes the autonomy that training providers for VET teachers and trainers must decide on curricula. The analysis illustrates how learning outcomes are addressed in pedagogies prescribed at the national/regional level. It also discusses the support that public authorities offer to training providers to help them present the learning outcomes approach to VET teachers and trainers. Such analysis helps to enrich and contextualise findings at meso and micro levels. It also helps to reveal ways in which policies and administrative arrangements frame and inform the presentation of the learning outcomes (competence) approach to VET teachers and trainers.

At meso level, the focus is on the practices and perspectives of training providers for VET teachers and trainers (Chapter 6). It covers aspects such as how the learning outcomes approach is addressed in curricula for VET teachers and trainers, including the theories presented to these VET practitioners. It also deals with aspects such as how the training providers for VET teachers and trainers perceive learning outcomes; how their perspectives on learning outcomes align with national/regional approaches; and whether they offer any resources or support on the learning outcomes approach to individual educators of VET teachers and trainers. Examining these elements helps to learn more about the how the learning outcomes (competence) approach is addressed and embedded in theories that underpin the training of VET teachers and trainers, and how the approach is presented to these future practitioners. It also reveals how learning

outcomes approaches are perceived and supported by providers of training for VET teachers and trainers; this may, in turn, influence their practice.

The micro level is related to the exposure of VET teachers and trainers to the learning outcomes approach as part of their initial and continuous training. This concerns whether they have received training on learning outcomes, whether they think they have been prepared to work with a learning outcomes-based curriculum, and how they see the learning outcomes approach and its usefulness in general. Exploring these aspects helps answer research questions concerning the impact of learning outcomes approaches on the actual implementation of teaching, learning and assessment in everyday practice in VET.

CHAPTER 5.

Policy and administrative arrangements

Key messages

(a) In all 10 countries examined, the autonomy of providers of training for VET teachers and trainers to decide on curricula is relatively high; CPD, compared to initial training of VET teachers and trainers, is less regulated, while initial professional preparation and CPD of VET trainers is much less regulated than that of VET teachers.

(b) None of the 10 countries analysed explicitly mandate or recommend specific pedagogical theories that would need to be covered in initial or continuous training for VET teachers and trainers.

(c) Except for Malta, providers of training for VET teachers and trainers are not advised how to present learning outcomes approaches to VET practitioners.

(d) Even in countries where no guidance on learning outcomes for educators of VET teachers and trainers exists, various materials and training on the topic are offered to VET teachers and trainers themselves.

Source: Authors.

This chapter analyses how national/regional policies and administrative arrangements inform the presentation of learning outcomes to VET teachers and trainers. The focus is on the training of VET practitioners, i.e. how training providers are influenced by national/regional level decisions and guidance on initial professional preparation and continuing professional development of VET teachers and trainers.

5.1. Provider autonomy in training for VET teachers and trainers

This section discusses the autonomy of initial and continuous training providers. Aspects covered include their freedom to decide on the training curricula and whether they use this freedom to introduce the learning outcomes approach.

National level desk research and interviews show that, in all 10 countries, the autonomy of providers of training for VET practitioners is high. None of the countries mandate any specific theories or methodologies that must be introduced to VET teachers and trainers. On the contrary, training providers typically have the freedom to decide on the specifics of the curricula and tailor it to the needs of VET teachers and trainers. While various aspects can contribute to the freedom that training providers enjoy, two main points are worth highlighting. First, many

providers are higher education institutions, which typically have full autonomy in all areas of their operation. Second, fieldwork shows that national authorities most often set the requirements for VET teachers and trainers, as well as general rules and direction for their initial professional preparation and CPD, rather than prescribe a certain curriculum for their training.

Nevertheless, the lack of mandated pedagogies (and an explicit requirement to cover the learning outcomes approach) does not mean that there are no expectations for training VET teachers and trainers. In some countries studied, the learning outcomes (competence) approach underlies the logic of whole VET systems/curricula. This signifies that current and future VET teachers and trainers are expected to be familiar with learning outcomes, how these are identified and defined, and how they can be used in everyday teaching/training practice. This has direct implications on the training of VET teachers and trainers and what providers may want to include when designing the training curricula. Examples that illustrate this are featured in the box below. It will be further explored in the second strand of the study (publication forthcoming in 2024).

Box 2. **Selected examples of learning outcomes being embedded in VET systems and VET curricula**

In Malta, learning outcomes were introduced across the whole education system in 2009 and are now established at all levels, from early childhood education, through to compulsory education, vocational education, higher education and adult education. All VET institutions are required to use learning outcomes in their course descriptions as part of the national regulation. With the setup of the Malta Qualifications Framework in 2007 and its enforcement through the Subsidiary Legislation 607.01 of 2012 (Parliament of Malta, 2012) a requirement to define courses and qualifications using learning outcomes was introduced. As a result, the regulator for qualifications, the Malta Further and Higher Education Agency, now only accredits the qualifications written in terms of learning outcomes.

In Finland, the learning outcomes approach in VET has been the only form of VET provision since early 2000s. In the national context, the terms competence-based approach and learning outcomes approach are used interchangeably. All the study programmes offered for initial professional preparation of VET teachers are fully in compliance with the competence-based (learning outcomes) approach. All modules and units as well as criteria for assessment are defined in terms of learning outcomes.

Source: Authors, based on country research on Malta and Finland.

While the autonomy of training providers is high in all 10 countries, initial training of VET teachers is regulated more heavily in some than in others. Based on this, 10 countries selected for in-depth analysis can be divided into two clusters.

(a) In countries such as Bulgaria, France, Lithuania, Poland, Portugal and, to some extent, Ireland, initial training of VET teachers is relatively more

centralised and regulated at national level. For instance, national authorities set common curricula or reference frameworks for initial training of VET teachers. Training providers still have the autonomy to decide on the specifics of the curriculum, e.g. what theories and methodologies to focus on and how to present them, but this must be done within the frames of requirements and priorities set at the national (central) level.

(b) In other countries such as Malta, the Netherlands, Slovenia and Finland, national authorities seem to provide no or minimum guidance on initial training of VET teachers. If anything, typically this involves setting qualification and competence requirements for VET teachers and/or broad rules and direction for their initial training but not a detailed curriculum.

An example of a more regulated approach to initial training of VET teachers can be observed in Lithuania. One of the most popular tracks to become a VET teacher in the country is having a subject-specific qualification, relevant work experience and attending a course on pedagogical psychological knowledge (KPMPC, 2022). The Ministry of Education, Science and Sport has issued specific requirements for this course, including a detailed description of modules that must be covered and their curricula. This is in line with the Law on VET of the Republic of Lithuania, based on which the Ministry plans initial training of VET teachers.

In France, initial training providers are required to follow the 2019 reference framework for teacher training, which encompasses 14 common competences to be developed through the master programme in teaching, education and training professions (*Masters Métiers de l'Enseignement, de l'Éducation et de la Formation*) which is compulsory for all future teachers. Initial teacher training for future VET teachers in secondary schools is delivered by the National Higher Institutes of Teaching and Education (*Institut national supérieur du professorat et de l'éducation*) and is strongly influenced by the standards and frameworks set by the National Ministry of Education.

In Poland, initial training of VET teachers can be offered only by higher education institutions either as a part of degree programmes or within non-degree postgraduate studies. In both cases course programmes must build on the framework curriculum set by the Regulation of the Minister of Science and Higher Education on the training standard for preparing to work as a teacher (Ministry of Science and Higher Education, 2019).

In Portugal, the National Training Centre for Trainers (*Centro Nacional de Qualificação de Formadores*), part of the Employment and Professional Training Institute (*Instituto do Emprego e Formação Profissional*), is a public organisation responsible for defining curricula, coordinating and monitoring initial and

continuous pedagogical training for VET trainers in schools ([4]). The current curriculum integrates nine modules of 10 hours each. Decisions to review existing training curricula are made at the central (national) level; these usually follow changes in policy, including the national qualifications framework (NQF). Decisions on the revision of relevant policies and review of the NQF are also made at central (national) level, but by the National Agency for Qualifications and Professional Education (*Agência Nacional para a Qualificação e o Ensino Profissional, I.P*).

In Bulgaria, providers of initial training for VET teachers follow the Ordinance on the State requirements for the acquisition of a teacher's professional qualification. It specifies the compulsory subjects for acquiring a professional qualification 'teacher of professional training'.

In all other countries studied, national authorities set only very broad standards/directions, if any, for training VET teachers.

In Ireland, VET is in the realm of further education and training, which is classified as post-secondary non-tertiary and second chance education/training. As there is a high level of autonomy in higher education in Ireland, tertiary level Departments of Education also have the same autonomy. Until recently, there was no official regulated entry route into further education and training for teachers. Only in 2016 were regulations adopted, by which further education and training teachers could register with the Teaching Council of Ireland under the newly created Route 3 further education. While the Teaching Council sets out standards for all registered teachers, those standards are broad and general and are not explicitly aimed at VET teachers, which showcases the general autonomy in the field.

In Finland, the legislation concerning VET teacher training defines only very broadly the aim of education and training, along with four elements of its contents. As stated in the Government Decree on Universities of Applied Science, the general objective of professional teacher education studies is that graduates of professional teacher education courses are prepared to guide the learning of diverse students and to develop their teaching field, considering the development of working life and professions (Ministry of Education and Culture, Finland, 2014). Universities of applied sciences, providers of professional teacher education, have the right to decide on such aspects as student intake (number of study places, entrance examinations), the content of their studies, the form of delivery of education, structures and organisation of learning.

([4]) In Portugal, VET professionals in school settings are typically referred to as trainers. Considering definitions applied in this publication, these would be considered VET teachers. For more information, see Annex 2, Table 10.

In the Netherlands, the quality of initial VET teacher training is supervised by the Accreditation Organisation of the Netherlands and Flanders (*Nederlands-Vlaamse Accreditatie organisatie*), though universities of applied sciences have the autonomy to decide on the content of their programmes. With regards to the pedagogic-didactic certificate (*pedagogisch-didactisch getuigschrift*), these universities are self-bound by the VH-MBO Raad framework (VH and Mbo Raad, 2020). This is, however, not a nationally established top-down approach.

In Slovenia, initial training for VET teachers is the autonomous responsibility of higher education institutions, with training providers having substantial freedom to decide on the curricula. There is no regulation prescribing the structure of the curriculum or the specific content of initial training of VET teachers, though guidelines and supporting materials are available.

Malta has no guidelines, standards or legislation that regulate the initial training of VET teachers. Each programme is designed by a respective training provider and its teacher trainers. The practice is for teacher trainers to be inspired and influenced by teacher training practice abroad. The only requirements are those indicated by the Referencing Report (National Commission for Further and Higher Education, 2016) which indicates the total number of credits for any qualification at different Malta's Qualifications Framework levels.

In all 10 countries, CPD, compared to initial training of VET teachers and trainers, is less regulated. Out of the 10 case studies, CPD is regulated the most in Portugal. Undergoing CPD training is mandated by Portuguese law. These training courses for teachers need to be certified by the Scientific-Pedagogical Council for the Continuous Training (*Conselho Científico-Pedagógico da Formação Contínua*) ([5]) to count for the evaluation and career progression of teachers. In France, secondary school teachers in general education and VET benefit from optional CPD courses. Every year the Ministry of Education prepares a National training plan (*Plan National de Formation*), which is to be followed at the regional level by the *académies*. The academic training plans are developed according to the needs and staff requirements of the *académie*, while reflecting the national training priorities. In Lithuania, certain priorities and plans for CPD are issued by the government for guidance but no strict rules or detailed curricula are imposed.

The best examples of not having explicit requirements for CPD of VET teachers and trainers include Poland, where CPD courses are short, designed and offered on demand. There are no national standards or curricula for such courses. Similarly, in Finland, there is no legislative definition at hand for CPD courses which

([5]) The Scientific-Pedagogical Council for Continuous Training is responsible for the certification of organisations, training courses and trainers of teachers of the regular education.

means that the CPD providers have the freedom to decide which kind of programmes they offer. It is the responsibility of the VET provider to ensure that workplace instructors and trainers have sufficient knowledge, skills and competences to guide, support and assess VET students during their learning periods in workplaces. In Bulgaria, CPD courses are mainly delivered by private training providers, and it is usually the programme director that decides on the thematic focus of the courses offered. In the Netherlands, the universities of applied sciences and other providers have full autonomy to respond to the needs of VET schools and teachers and decide on the content of CPD courses.

For VET trainers in companies, the comparative analysis shows that initial professional preparation and CPD are only loosely regulated, and, in all cases, much less than for VET teachers.

In all 10 countries providers of training for VET teachers and trainers have the autonomy to decide on specifics of the curricula that they offer. However, research shows that only some use this autonomy explicitly to introduce the learning outcomes approach to VET teachers and trainers. This is discussed in more detail in Section 6.1.

5.2. Mandated and/or recommended pedagogies

This section analyses to what extent national/regional policies recommend pedagogical theories or approaches related to learning outcomes. The focus is on what providers are expected to cover in initial training they offer to VET teachers and trainers.

Research shows that none of the countries (of the 10 analysed) explicitly recommend specific pedagogical theories or approaches to be covered in initial or continuous training for VET teachers and trainers. This is in line with the previous findings on the freedom that training providers have regarding curricula. Even in countries where an initial teacher training curriculum is established at national level, the learning outcomes approach is not required to be covered. This is best illustrated by examples from Portugal and Lithuania.

The curriculum for the initial pedagogical training in Portugal of VET trainers in schools ([6]) is defined at the national level by the National Training Centre for Trainers of the Employment and Professional Training Institute. The curriculum integrates 9 modules, the fourth of which is related to pedagogic methodologies

([6]) In Portugal, VET professionals in school settings are typically referred to as trainers. Considering definitions applied in this publication, these would be considered VET teachers. For more information, see Annex 2, Table 10.

and strategies (*Centro Nacional de Qualificação de Professores*). Commonly, this module consists of the presentation of the following teaching and learning theories: behaviourism (including, classical conditioning, operant conditioning and social learning) and cognitivism (including the types of learning). However, while certain theories are taught, they are not explicitly linked with the learning outcomes approach.

Rather than mandating specific theories or methodologies, national policy documents in Lithuania set the requirements and direction for initial training of VET teachers. Teacher training providers themselves need to decide which theories and methodologies to present. A good example of this is the pedagogical psychological knowledge course, which is one of the ways to become a VET teacher in Lithuania. The course is heavily governed at the national level with a mandated curriculum issued by the Ministry of Education, Science and Sport. While it is required that course lecturers cover main learning theories, teaching methods and ways to assess student achievement and progress, module descriptions do not specify which theories, methods or approaches must be presented. VET teachers in Lithuania generally must be able to apply learning theories, different teaching methods and assessment approaches, but it is not spelled out which ones.

Some countries have a strong underlying theoretical base to their VET system. Initial training of VET teachers and trainers is then designed in a way which prepares future VET practitioners to work within that system. This suggests that, while training providers have the autonomy to choose the theories and pedagogies to cover, they typically do so having the overarching theoretical framework of the VET system in mind. Examples of this are presented in Box 3.

Box 3. **Learning outcomes embedded in VET systems and implications**

In France, the competence-based approach is fully embedded in relevant national policies. Training of VET teachers is structured around a reference framework for teacher training (*Référentiel de compétences des métiers du professorat et de l'éducation*, 2013). This framework explicitly captures the learner-centred, competence-based approach predominant in the French education system and emphasises the competences that teachers and educators should have to implement this approach (Ministère de l'Éducation nationale et de la Jeunesse, 2013).

In Finland, vocational education and training exclusively follows a competence-based approach. This approach is well-defined and encompasses learner-centred methods, personalisation, guidance, and counselling. It relies on national qualification requirements to guide implementation. However, it leaves room for flexibility in setting aims, achieving learning outcomes, and assessing competences. While the competence-based approach is not contested at all, it is up to the training providers for VET teachers and trainers, and schools of professional teacher education to decide

which theories they will use as a basis of their programmes. There are no national or other mandates, recommendations or such in use for this.

VET curriculum at all educational levels in Malta is based on the learning outcomes approach. According to the referencing reports, local training providers are mandated to incorporate learning outcomes in all qualifications (National Commission for Further and Higher Education, 2016). With the widespread use of learning outcomes in VET for several years, learning outcomes approaches automatically influence training programmes that aim at preparing VET teachers.

Source: Authors, based on country research on France, Finland and Malta.

5.3. Resources and support at national/regional levels

This section analyses what resources and support at national/regional level are available to help the providers of training for VET teachers and trainers introduce learning outcomes to current and future VET practitioners.

Table 4. **Support for learning outcomes training for VET teachers and trainers**

Country	Do public authorities advise training providers on how they should present the learning outcomes approach to current and future VET teachers and trainers?	Do public authorities provide any materials on the learning outcomes approach that training providers for VET teachers and trainers could readily use?	Do public authorities organise and/or (co-) fund any training of current/future VET teachers and trainers that touches upon the learning outcomes approach?
Bulgaria	No	Yes	Yes
Finland	No	Yes	Yes
France	No	Yes	Not available
Ireland	Not relevant in the country's context	Yes	Yes
Lithuania	No	Yes	Yes
Malta	Yes	Yes	Yes
Poland	No	Yes	Yes
Portugal	No	Not available	No
Slovenia	Not available	Not available	Yes
Netherlands	Not relevant in the country's context	Not relevant in the country's context	Not relevant in the country's context

Source: Authors, based on country research.

Training providers in Malta receive advice from public authorities on how to present the learning outcomes approach to current and future VET teachers and trainers. None of the other countries studied do so. This shows that most countries

analysed do not offer guidance on learning outcomes directly to the providers of training for VET teachers and trainers. Instead, the focus is on supporting VET teachers and trainers themselves; as illustrated by the findings on the materials in all countries studied where data are available, public authorities provide some materials on learning outcomes. These materials are not intended for the providers of training for VET teachers and trainers but could be readily used by them as guidance on what is expected from future VET practitioners. Even where no guidance on learning outcomes for educators of VET teachers and trainers exists, various materials have been published for VET teachers and trainers themselves.

In Ireland, there has been a general shift in the past 20 years towards a 'broader, more holistic, student-centred approach to education and form of assessment' (Eurydice, European Commission). The National Council for Curriculum and Assessment (NCCA) has subsequently produced a booklet on learning outcomes (NCCA, 2019a) as part of a series to support 'a whole-school approach to professional development and capacity building in developing effective, ongoing assessment practice which supports students' learning'. The booklet's purpose is to empower teachers to explore a range of approaches that will enable them to develop a coherent approach to the use of learning outcomes. Additionally, it provides a rudimentary introduction to learning outcomes which suggests that some secondary teachers may still be finding it a challenge to embrace and apply the concept of learning outcomes approaches in their practice, as opposed to simply implementing a syllabus redesigned around learning outcomes.

In Lithuania, in 2022, the Qualifications and Vocational Education and Training Development Centre (*Kvalifikacijų ir profesinio mokymo plėtros centras*) translated into Lithuanian and published the second edition of a European handbook *Defining, writing and applying learning outcomes*, prepared by Cedefop. The handbook offers examples of how to use learning outcomes in education and training, particularly in VET. Before that, in 2015, the Centre published *Learning outcomes in vocational education and training: Methodological recommendations for the formulation and assessment of learning outcomes*. This document defines concepts such as competences and learning outcomes and explains how learning outcomes shall be understood, and how they can be formulated. It also elaborates on the best ways to assess the achievement of intended learning outcomes. Specific examples are given throughout the document, while a reflection on lessons learned and actionable recommendations is provided at the end. In 2013 and 2021, the Centre also published guidelines aimed at facilitating the design and implementation of modular VET programmes. Both documents explicitly mention learning outcomes. The Qualifications and Vocational Education and Training

Development Centre has also published resources on how to formulate and assess learning outcomes within the frames of modular VET programmes. These are not aimed at teacher training providers/individual teacher trainers but could be readily used by them to learn more about how the learning outcomes approach could be presented to VET teachers and trainers. This showcases one of the instances when there are useful materials available in the country, though they are not positioned as resources explicitly aimed at teacher training providers.

In most countries studied, public authorities organise or part-fund training of current and future VET teachers and trainers, which touches upon learning outcomes approaches. Such training varies by country. In some, it focuses on the use of learning outcomes (e.g. Poland) while in others it is of more general nature and covers the topic of learning outcomes among other aspects (e.g. Malta). In Poland, the Ministry of Education, through its Centre for Education Development, organises regular online courses on Developing teaching programmes for vocational education. These are regularly offered and have gained interest from VET teachers. The programme is based on the document *Methodology for developing sample teaching programmes for occupations* developed and approved by the Ministry of Education. It includes three thematic blocks: education law in the scope of vocational education; developing teaching programmes for vocational education professions; and evaluation of teaching programmes for vocational education professions. Since the training is conducted by the Centre directly subordinate to the Ministry of Education, it sets the 'standard' for the procedure of designing similar programmes.

The relatively scarce support provided at national/regional level to training providers may be explained by the fact that, in all countries, they are granted high autonomy to decide on curriculum, and the State does not intervene by recommending specific approaches. Therefore, in terms of resources/support at the national level, authorities seem to focus on VET providers and VET teachers and trainers themselves, rather than their educators.

5.4. Conclusions on national policies

This chapter suggests that providers of training for VET teachers and trainers have relatively high autonomy to decide on the contents of training programmes they offer. Section 6.1 shows that many use this autonomy to introduce the learning outcomes approach to current and future VET teachers and trainers. However, this mainly results from the initiative of the providers themselves. None of the 10 countries studied mandate any particular theories or approaches for initial or continuous training of VET practitioners. Only 1 out of 10 countries advises training

providers on how to present learning outcomes to current and future VET practitioners.

Taken together, these findings reveal that providers of training for VET teachers and trainers are given much freedom to cover the learning outcomes approach in their programmes. Yet, except for Malta, they are not nudged to do so explicitly, at the national level. While public authorities offer materials and training on the topic of learning outcomes in VET, these typically target VET teachers and trainers rather than educators who work to prepare them.

This is well illustrated in the heatmap below (Table 4) where green indicates the arrangements enabling the shift to learning outcomes in VET, and red those hindering it or at least showing unused potential.

Table 5 **Arrangements enabling or hindering the shift to learning outcomes**

	Autonomy to decide on curricula and introduce the learning outcomes approach	Requirements to cover specific theories or approaches	Guidance on learning outcomes explicitly aimed at providers of training for VET teachers/trainers
Bulgaria	Relatively high within framework set	None	None
Finland	Very high	None	None
France	Relatively high within framework set	None	None
Ireland	Very high	None	Not applicable
Lithuania	Relatively high within framework set	None	None
Malta	Very high	None	Exists
Slovenia	Very high	None	None
The Netherlands	Very high	None	None
Poland	Relatively high within framework set	None	Not available
Portugal	Relatively high within framework set	None	Not applicable

Having explored the overarching policy and administrative arrangements, it is important to see what implications this has on actual training of VET teachers and trainers (Section 6.1 for more details). Views of the training providers on learning outcomes (potentially influenced by national level arrangements) are covered in Section 6.2.

CHAPTER 6.

Training provider practices and perspectives

Key messages

(a) The selected countries show differences in how learning outcomes approaches are integrated in the theoretical underpinning of VET teacher training programmes. In most selected countries, no implicit/explicit link was found. In others explicit links were identified and in some the references to learning outcomes approaches in theoretical underpinning of VET teacher training programmes is implicit.

(b) Differences between countries can also be seen in the practical embedding of the learning outcomes approach in teacher training programmes. Here, some countries have explicit general courses on how to apply learning outcomes approaches. In most countries, VET teachers and trainers are introduced to the way learning outcomes are defined in occupational, educational standards, qualifications and/or national curricula as part of their professional training.

(c) Teacher training providers (management, curricula/programme coordinators, and individual teacher trainers) are predominately supportive of the national/regional direction on the learning outcomes or competence-based approach because they associate many benefits with it, both for teachers and learners and for the quality of the VET system.

(d) In some countries, it has been emphasised that there are no major impeding factors that could prevent the use of learning outcomes by VET teachers and trainers in their daily practice.

(e) Critical comments refer to dissatisfaction with how the learning outcomes approach is operationalised and implemented in VET. This requires further consideration, awareness raising and training of VET teachers and trainers.

(f) Only in a few cases are specific resources or support on learning outcomes provided by training providers for VET teachers and trainers to their learners.

Source: Authors.

6.1. Learning outcomes approaches in VET teacher and trainer curricula

This section explores how the learning outcomes approach is embedded in initial and continuous training curricula for VET teachers and trainers. It discusses not only how VET teachers and trainers are taught about learning outcomes but also how the learning outcomes approach is addressed in the pedagogical theories in curricula. Throughout, a distinction is made between the implicit and explicit embeddedness of the learning outcomes approach in the curricula for VET teachers and trainers. In this context, implicit embedding suggests that the whole

set-up of programmes familiarises student teachers and trainers with the principles of applying learning outcomes. Explicit embedding refers to explicit descriptions of learning content, modules and tasks by which student teachers and trainers learn how to use the learning outcome statements of their occupation in designing and implementing their teaching and learning unit.

This section focuses on initial training of VET teachers, although not neglecting VET trainers' professional preparation and CPD. Earlier studies show that VET trainer initial training is, in many countries, less structured compared to that of VET teachers (and that of VET teachers is less organised compared to general education teachers). With CPD, there is often no overarching framework: professional development for VET teachers and trainers is mostly offered by public and private training providers, based on demand from VET schools, companies and individual teachers and trainers (Cedefop, 2022; European Commission et al., 2017).

6.1.1. Theories underlying the training of VET teachers and trainers

This section explores which pedagogical theories underline the design and implementation of training of VET teachers and trainers and whether these theories reflect an orientation towards learning outcomes approaches in VET.

6.1.1.1. *Pedagogical theories in curricula for VET teachers and trainers and their link to learning outcomes*

The analytical approach and the overview of main teaching and learning theories (Section 4.2) indicate that pedagogical theories underlying VET teacher training can relate to learning outcomes approaches in different ways. All major theories (behaviourism, constructivism, cognitivism, social learning theory, situated learning, experiential learning, connectivism) can be (implicitly or explicitly) linked to aspects of learning outcomes approaches, most notably around observable behaviour, ability to perform tasks, situating the learning in a wider (work-related) context, pathway-independent learning, and stimulating individual agency or self-directedness of the learner. While theoretically this is the case, whether the learning outcomes orientation is underlying the initial and continuous training of VET teachers and trainers is not yet explored. This section, based on the case studies, sheds light on the theoretical underpinning of VET teacher training, looking at whether there are any implicit or explicit references to learning outcomes, and, where these exist, how these references are phrased and operationalised. The practical embedding of learning outcomes approaches in VET teacher training is discussed in Section 6.1.2.

The case studies in the selected countries show differences in how learning outcomes approaches are integrated into the theoretical underpinning of VET teacher training programmes. In the following sections, the countries are clustered in two categories; first by the link (or its absence) between pedagogical theories and leaning outcomes approaches and, second, in cases of an identified link, an analysis of whether it is established at national level (true for all initial VET training of VET teachers), or whether teacher training providers can substantiate the link by themselves.

In some countries there are no explicit or implicit references to learning outcomes in the pedagogical theories presented to future VET teachers. This can be because the discussed pedagogical theories in the programmes for VET teachers are not linked to learning outcomes approaches (Bulgaria, Portugal, Lithuania, Slovenia, Poland), or because pedagogical theories are not specifically referred to in the VET teacher programmes (Poland). In Bulgaria, for instance, the pedagogical theories do not refer explicitly to learning outcomes. In Portugal, the teaching and learning theories that are addressed in the initial and continuous pedagogical training of VET trainers in schools ([7]) (behaviourism and cognitivism) are presented as theoretical frameworks to be considered, without relating them to the learning outcomes approach. This is also the case in Lithuania, where VET teachers are required to know and be able to apply learning theories. These theories are not explicitly linked with the learning outcomes approach; this is covered separately, in more practical terms and context. In Slovenia, the pedagogical/andragogical qualification for the teachers (including VET teachers), for instance, offered by the University of Ljubljana, does not address the learning outcomes approach in reviewing major theoretical currents and paradigms in the development of educational thought. In Poland, there is no explicit reference to learning outcomes approaches in the theoretical underpinning of VET teacher training programmes. The general requirements for teacher training programmes included in the ministerial regulation do not refer to any pedagogical theory and so training programmes also do not refer to those theories. Hence, there is no explicit reference to learning outcomes approaches in the theoretical underpinning of VET teacher training programmes.

In other countries, such as Ireland, France, Malta, the Netherlands and Finland, the learning outcomes-oriented approach (sometimes referring to competences) is integrated into the theoretical set-up of teacher training programmes, meaning that VET teacher training programmes refer to pedagogical

([7]) In Portugal, VET professionals in school settings are typically referred to as trainers. Considering definitions applied in this publication, these would be considered VET teachers. For more information, see Annex 2, Table 10.

theories and link this to learning outcomes-oriented approaches. While specific pedagogical theories are often not listed, a clear focus is placed on pedagogical paradigms that closely link to learning outcomes, including learner-centred approaches, experiential learning, and competence-based approaches. Having an implicit or explicit link is often due to a long history of learning outcomes approaches both in VET and in higher education (responsible for VET teacher training). The countries that have an explicit reference to learning outcomes approaches in the theoretical underpinning of the VET teacher training programmes are France and Malta. In other countries, such as Ireland, the Netherlands and Finland, this reference is more implicit, and depends on the specific teacher training provider.

French teacher training is structured around a skills repertoire for education and teaching professionals (*Ministère de l'Éducation nationale et de la Jeunesse, 2013*). This framework is intended to capture the learner-centred, competence-based approach predominant in the national education system. It emphasises the competences that teachers and educators should have to implement this approach. Since this framework is the basis for the development of teacher training programmes, it could be argued that learning outcomes are largely covered in the curricula for VET teachers and trainers, although no specific theories are presented as part of this training. In Malta, the training of teachers for VET at post-compulsory education (at Malta College of Arts, Science and Technology) is based on experiential learning and scaffolding as key learning theories for the implementation of learning outcomes. In relation to other theoretical perspectives that are integrated in the programme (constructivism, simulated-learning, work-based learning, and authentic learning), there is overall acceptance of these pedagogies with respect to learning outcomes.

While France and Malta have a more uniform approach, in Ireland, the Netherlands and Finland a more diverse picture emerges where teacher training providers make their own choices in terms of orientation towards pedagogical theories, education visions and how these capture learning outcomes approaches.

In Finland, teacher training providers use pedagogical theories that implicitly refer to the use of learning outcomes. Three providers pointed out that, as the competence-based approach is there and it is the context where teacher students are going to work in the future and where they also, at least, do their practicum, the use of various learning theories is there to help and support the students to find their way to work as teachers in a VET world which is based on a competence-based approach. The schools refer to theoretical foundations such as socio-constructivism, co-operational learning, cognitive psychology, interactional concept of human and his/her relationship to his/her surroundings and humanistic

concept of human, inclusive pedagogy, experimental learning, productive learning and participative pedagogy.

In Ireland, all the main educational theories are covered in initial teacher training programmes, the overall approach being to set out perspectives and then encourage students to reflect on them critically and to make up their own minds as to which ones should underpin their teaching practice. But learner-centredness seems to be the dominant paradigm (especially in adult education) which would also suggest that constructivist perspectives dominate. As expressed in interviews in Ireland, generally reflecting more countries, interviewees from teacher training providers did not think about how their pedagogical theories relate to learning outcomes approaches, though theoretical and practical teaching is mutually supportive within the initial teacher training curricula examined. At the very least they may form the backdrop to student teachers considering learning outcomes; students might be expected to bring theoretical considerations into exercises where they examine, write and critique learning outcomes, which seem to be a common part of initial teacher training.

In the Netherlands, higher education institutions (Universities of Applied Sciences), responsible for VET teacher training have the autonomy to design the programme ([8]) leading to the agreed learning outcomes for becoming a VET teacher (MBO Raad, 2015). Universities of applied sciences that provide the teacher training programmes often have a specific institutional educational concept. The pedagogical departments have autonomy to apply a wide range of pedagogical theories, while VET teacher trainers – through work-based learning in the VET school – are also exposed to the pedagogical approach selected. As learning outcomes approaches in VET have been implemented in the Netherlands for 20-30 years, it is common practice to educate and train the VET teacher students in applying this approach. The box below provides examples of the overarching conceptual approach towards education in two Dutch universities of applied sciences and an example from Ireland.

Box 4. **Educational concepts adopted by teacher training providers in the Netherlands and Ireland**

Netherlands

NHL Stenden UAS applies a design-based education educational concept, emphasising learning in real-life situations, learning communities (within and outside the school), learning from experimentation (NHL Stenden). This approach is also

([8]) Pedagogic-didactic certificate (pedagogisch-didactisch getuigschrift: PDG) programme.

applied in the pedagogic-didactic certificate programme (NHL Stenden), being practice-oriented and learning together with peers.

At HAN UAS, the pedagogic-didactic certificate programme is based on the constructive alignment model by Biggs and Tang (2011). Constructive alignment is about purposeful alignment of learning objectives, learning activities and assessment. The purpose of this triangular relationship is to ensure that all parts of the education challenge and motivate the teacher student to work towards the same goal; functioning as an entry-level competent VET teacher (HAN University of Applied Sciences, 2023).

Ireland

Dublin City University's Honours Degree in Education and Training example of a specific module ([9])

The microteaching module provides core training for the student-teacher/trainer which will apply in a range of education and training contexts. The module aims to: equip students with the ability to develop understanding of how learners learn; introduce students to the concept of the teacher as a reflective practitioner; introduce students to contemporary approaches to a range of teaching & training skills and how these can be adapted for use in a variety of education and training environments including further, adult and continuing education settings; develop confidence in a range of initial teaching skills through reviews, analysis, demonstration, peer coaching and guided feedback. Learners will also examine how to select certain teaching methods through a process of active planning and how these would apply in different contexts. Students will design, implement and evaluate four learning episodes and teach for 5-10 minutes while being recorded on digital video in the microteaching suites. Through Moodle and a portfolio they will critically reflect on each skill, performance and impact.

Learning outcomes include:

1. plan, implement and evaluate a broad range of core teaching /learning skills in a microteaching environment;
2. critically reflect on the practice of core teaching methodologies and evaluate their own and peer teaching episodes, highlighting strengths and areas for development;
3. produce a portfolio of evidence based on recorded teaching episodes and using a VLE (Moodle) reflect on these both technically and critically;
4. Plan and design a number of learning episodes;

([9]) Description of the Year 1 Core Module called Microteaching and teaching preparation 2022-23 academic year, worth 10 of the 60 credits to be taken in year 1; workload of the module is 250 hours. This can be taken as a fairly typical example of how LOs are dealt with in ITE/CPD courses in Ireland: it situates the practice of writing LOs in the context of theories of learning and teaching so that student teachers can take an informed approach to how to use LOs in their teaching practice (rather than blindly using the LOs contained in national qualifications).

5. discuss a range of teaching and learning theories;
6. write learning outcomes to be used in a range of teaching and training contexts.

Indicative content and learning activities include:

1. learning theories;
2. adult learning, learning styles, multiple intelligences
3. teaching methods;
4. Dale's classification of methods; choosing appropriate methods that can be adapted to work in a range of contexts including further, adult and continuing education settings;
5. evaluating methods to use in these contexts.

Source: Authors, based on country research on Ireland and the Netherlands.

Table 5 synthesises the differences in whether and how the learning outcomes approach is embedded in theories underpinning the training of VET teachers and trainers across 10 countries. In this context, implicit linkages suggest a clear focus on pedagogical paradigms that closely relate to learning outcomes approaches, although the latter and their links to the paradigms are not discussed directly. In contrast, explicit links imply that VET teacher training programmes refer to pedagogical theories and link these to learning outcomes-oriented approaches directly.

Table 6. **Links between pedagogical theories and learning outcomes approaches made by teacher training providers**

Country	Link between learning outcomes approaches and pedagogical theories underlying VET teacher training	If link, centrally steered, or based on teacher training provider discretion
Bulgaria	No link	Not applicable
Finland	Implicit link	Provider-based approach
France	Explicit link	Uniform approach
Ireland	Implicit link	Provider-based approach
Lithuania	No link	Not applicable
Malta	Explicit link	Uniform approach
The Netherlands	Implicit link	Provider-based approach
Poland	No link	Not applicable
Portugal	No link	Not applicable
Slovenia	No link	Not applicable

Source: Authors, based on country research.

6.1.2. Embedding the learning outcomes approach in teacher training

The learning outcomes approach is not always visible in the theoretical underpinning of VET teacher and trainer training programmes. In this section,

evidence is provided on how learning outcomes approaches are practically embedded in teacher training. Here it is important to differentiate between explicit forms of how curricula address learning outcomes approaches, and implicit forms, by which students – through understanding the general nature of VET and specific pedagogical approaches – are acquainted with applying them. This is specified in terms of general training on how to apply learning outcomes approaches, and in terms of training to apply learning outcomes of the student teacher or trainer occupational field.

6.1.2.1. *General training in applying learning outcomes approaches*

Examples of explicit training on using learning outcomes were identified in Ireland, Lithuania, the Netherlands, and Portugal. In Ireland, specific modules explicitly address using learning outcomes approaches. At Southeast Technological University, for instance, in both the part-time and full-time routes in the Level 9 postgraduate diploma (which provides Route 3 entry to teaching in further education and training), students go on a teaching placement from the very start and so the practical teaching modules look at learning outcomes from day one. Students are taught that each lesson must have a learning outcome and that they need to write good learning outcomes. There is also a curriculum development and assessment module in the second semester. In one exercise, students take the learning outcomes in a Quality and Qualifications Ireland minor award (the module descriptors from an Education and Training Board programme) and critique them by examining the assessment methods and how appropriate they are: for Quality and Qualifications Ireland, the government agency responsible for awards standards; and for students, given that learning outcomes can be negative for some learners, so they discuss teaching and learning for learners who need a different approach. They also need to show how they would produce the evidence needed through assessment.

In Lithuania, a master level programme in educational science offered by Vytautas Magnum University allows for VET specialisation; within that, the learning outcomes approach is explicitly introduced. Students of this programme can choose an elective subject on teaching in VET, which comprises a full day session specifically focused on learning outcomes. Main topics presented include how to use learning outcomes in planning curriculum and individual learning units, teaching, and assessment. Together with these, VET teachers are introduced to the main challenges in using learning outcomes in planning, teaching and assessment, and an overall critique of the learning outcomes approach.

In Portugal, the case study concludes that the learning outcomes approach is not directly presented in the (initial and continuous) pedagogical training of VET

trainers, but the approach is fully embedded in different parts of the programmes. The modules explicitly refer to various aspects that are connected to learning outcomes approaches. For instance, in the module about the pedagogical methodologies and strategies, or the module on the operationalisation of training, the teacher students are introduced to the concept of competences, learning objectives, and different pedagogical techniques (based on project- and problem-based learning approaches), highlighting the need to adjust the methods to the objectives, contexts and target groups. In the Netherlands, learning outcomes are fully embedded, without explicitly addressing them in pedagogic-didactic certificate programmes. The box below provides an example from the detailed description of one learning outcome of the pedagogic-didactic certificate programme offered by HAN UAS.

Box 5. **Example of a detailed description of learning outcomes**

'You design a meaningful educational programme from the vocational context of the VET student. For this purpose you research the professional qualifications and the pedagogical didactic vision of your organisation. You delve into the characteristics of your target group and what motivates them. You have a clear idea of the learning objectives your target group needs to achieve and match these with your design (learning content, learning activities and learning activities and learning resources). You prepare your teaching programme well, using a (lesson) preparation model'.

Source: HAN, 2023.

More implicit training on applying learning outcomes can be found in all other countries. In Bulgaria, the content of teacher training on the learning outcomes approach focuses predominantly on how to choose appropriate teaching and learning approaches and methods in relation to a specific subject, be it from general or vocational education. Learning outcomes approaches are mainly emphasised in relation to acquiring key competences and are integrated in related general subjects (language, numeracy, digital). An example of a training programme in Finland emphasises an implicit learning outcomes orientation of the overall outcome of the programme: 'During the teacher education, you will learn to guide the learning of different learners and to use diverse learning environments in your teaching. You will also learn how to develop your skills in planning and conducting teaching, guidance methods, competence assessment, dialogical skills, working in networks and understanding of different theories and concepts in education sciences' (HAMK). The same applies to specific modules ([10]). In Malta,

([10]) See for instance the module Studies in professional pedagogy: 'The student teacher is able to use their dialogue skills to promote the learning, sense of community and

selected VET teacher training providers (Faculty of Education and Institute for Education) highlighted that they tackle the learning outcomes approach through the whole learning process. This includes different aspects from understanding learning outcomes, developing teaching plans, using pedagogies which facilitate the achievement of these learning outcomes, designing teaching resources which target the learning outcomes set, developing and implementing appropriate assessment processes. Teacher training by Malta College of Arts, Science and Technology for VET teachers trained to teach at secondary compulsory education also tackle the use and implementation of learning outcomes as part of the whole learning process. Tutors do not only introduce learning outcomes but also support students in how to use them during their teaching practice.

6.1.2.2. *Understanding the learning outcomes of the teacher student occupational field*

VET teachers in their professional training are introduced to the way learning outcomes are defined in occupational, educational standards, qualifications and/or national curricula. In Finland, VET teacher students are familiarised with the respective national vocational requirements of their field as well as its local derivative. For example, according to the assessment criteria for the learning module Studies in professional pedagogy at Hämeenlinna, it is defined that to pass the course one needs to know curricula-related practices, the degree principles and/or curricula of their field of teaching, foresight material and other guidelines that affect their teaching (HAMK). In Ireland, teacher students begin their teaching placements from the beginning and, as a result, the practical teaching modules focus on assessing learning outcomes from the outset. In Lithuania, qualifications standards and national modular VET curricula are introduced to VET teachers as part of the master programme in education science, but also beyond that in some professional pedagogical programmes offered by other universities. In Malta, student VET teachers are introduced to learning outcome statements in their relative subject specialisation where they will be asked to teach when working as teachers in compulsory schools. The Malta's College of Arts, Science and

wellbeing of both their students and the entire learning community. They are able to plan teaching and guidance in a work-centred manner in various learning environments. They understand the theoretical and legislative basis of individualised studies and guidance as well as their practical applications. They are able to use these in their work as a teacher. They are able to make diverse use of learning environments and digitalisation. They are able to take the principles of copyright and data protection into consideration. In their teaching work, they are able to creatively utilise pedagogical models and methods of teaching and guidance. They are able to assess and give feedback on the development of students' competence.' See Ammatillinen opettajakoulutus. Opinto-opas.2023-2024. HAMK, p. 7 – 11.

Technology VET teacher training course also has teaching practice at both compulsory school level as well as in initial VET. This means that the student teachers will have to be prepared to teach within the learning outcomes framework and do this during their teaching practice period. VET teacher students in the Netherlands are trained to be able to read and understand the specific qualification file for their professional subject. They also are trained to translate those learning outcomes to the specific school context with its own didactic model. This implies that the teacher training offered introduces the teacher students to the qualification files, and the learning outcomes descriptions included, and how to interpret them.

In some countries, it is less explicit that the VET student teachers are familiarised with the learning outcomes of their occupational field. In Poland, for instance, in the programmes reviewed there is no reference to the introduction of teacher trainees to the learning outcomes statements in official documents. However, for practicing teachers it is inevitable to get to know the very detailed learning outcomes defined in the core curriculum for vocational education. In Portugal, Module 1 of the initial pedagogical training of trainers integrates the approach of the national qualifications framework, national catalogue of qualifications and main educational and training offer available. While presenting the national catalogue of qualifications, the existence of a qualification profile and related curriculum can be mentioned. However, the interviews indicate that the focus of the catalogue consists of the presentation of its objectives, how it is organised, and how to access it and search for educational offers, hence there is limited evidence that student teachers are exposed to learning outcomes approaches.

6.1.3. Conclusions on learning outcomes in teacher training curricula

Programmes for VET teachers are built on many pedagogical theories that explicitly or implicitly work in line with learning outcomes approaches. Many theories emphasise the real-life work context for VET teachers and their ability to develop VET programmes based on stated VET learning outcomes. They are exposed to learning-by-doing theories and approaches and theories that emphasise the attitudes above knowledge.

Embedding learning outcomes approaches in the theoretical underpinning of VET teacher training programmes, or in the programmes delivered, can be implicit or explicit. Implicit embedding means that the whole set-up of programmes familiarises student teachers with the principles of applying learning outcomes. Explicit embedding indicates explicit descriptions of learning content, modules and tasks by which student teachers learn how to use the learning outcome statements

of their occupation field in designing and implementing their teaching and learning unit.

The selected countries show differences in how learning outcomes approaches are integrated in the theoretical underpinning of VET teacher training programmes. In some countries (Bulgaria, Lithuania, Poland, Portugal, Slovenia) no implicit/explicit link was found, in others (France, Malta) explicit links were identified. In some, the references to learning outcomes approaches in theoretical underpinning of VET teacher training programmes was implicit (Ireland, the Netherlands, Finland).

Differences between countries can also be seen in the practical embedding of the learning outcomes approach in teacher training programmes. Some countries have explicit general courses on how to apply learning outcomes approaches (Ireland, Lithuania, the Netherlands, and Portugal). In some countries, applying learning outcomes approaches is integrated into occupational practice (Ireland, Lithuania, Malta, the Netherlands, Finland) and in others how learning outcomes are embedded practically in the VET teacher training programme is more implicit. The heatmap below summarises and categorises the country specific information for this section. Green indicates embedding of learning outcomes approaches in VET teacher training, red indicates lack of it.

Table 7. **Learning outcomes in teacher training**

Country	Theory: Link between learning outcomes approaches and pedagogical theories underlying VET teacher training ([11])	Theory: If link, centrally steered, or based on teacher training provider discretion	Practice: General training on how to apply learning outcomes approaches ([12])	Practice: Training on how learning outcomes are defined in standards and/or curricula relevant to the occupational field ([13])
Bulgaria	No link	Not applicable	Implicit	No information on this issue
Finland	Implicit link	Provider-based approach	Implicit	Explicit
France	Explicit link	Uniform approach	Implicit	No information on this issue
Ireland	Implicit link	Provider-based approach	Explicit	Explicit
Lithuania	No link	Not applicable	Explicit	Explicit
Malta	Explicit link	Uniform approach	Implicit	Explicit
Netherlands	Implicit link	Provider-based approach	Explicit	Explicit
Poland	No link	Not applicable	Implicit	Implicit
Portugal	No link	Not applicable	Explicit	Implicit
Slovenia	No link	Not applicable	Implicit	No information on this issue

Source: Authors, based on country research.

([11]) In this context, implicit links suggest a clear focus on pedagogical paradigms that closely relate to learning outcomes approaches, although their relationship to the paradigms are not discussed directly. In contrast, explicit links imply that VET teacher training programmes refer to pedagogical theories and link these to learning outcomes-oriented approaches directly.

([12]) In this context, explicit training suggests that a specific module or session is dedicated to introducing VET teachers and trainers to learning outcomes approaches. This includes presentation of how to use learning outcome descriptors established in reference documents in teaching, learning and assessment. Implicit training implies that learning outcomes approaches are not covered directly, but principles in line with them are introduced and/or guide the whole training of VET teachers and trainers.

([13]) In this context, explicit training means that student teachers and trainers are introduced to the way learning outcomes are defined in occupational, educational standards, qualifications and/or national curricula. Implicit training implies that, in very general terms, learning outcome descriptors in national documents may be covered, but this is done indirectly, through general presentation of qualifications documentation and without concentrating on particular learning outcomes relevant for one's occupational sector.

6.2. VET training provider views

This section analyses how learning outcomes are viewed by providers of initial and continuous training for VET teachers and trainers and how this aligns with national approaches. Possible reasons for such views on learning outcomes and their consistency with national/regional policies and discourses are also explored, as is support for the application of the learning outcomes approach by training providers, or other stakeholders is addressed in this section.

6.2.1. Broad agreement and positive attitudes

This section discusses the positive views on learning outcomes orientation from the interviewed representatives of the providers of training for VET teachers and trainers. The benefits of the learning outcomes approach emphasised by the interviewees are also highlighted.

6.2.1.1. *General agreement and compliance with official specifications on the use of learning outcomes*

Strong support for the national or regional focus on the learning outcomes approach by training providers is evident in several of the countries studied. In Ireland and Finland, this is justified by the strong tradition of this approach in their VET systems.

In Finland, all five schools of professional teacher education provide their education and training offers, across initial study programmes, postgraduate programmes, CPD programmes and other measures, solely and entirely using a competence-based approach (*osaamisperustaisuus*). According to all interviewees, there is clear acceptance and consensus on the use of competence-based approach in VET and the approach itself is not questioned or criticised. One reason behind this is that it is a long tradition in Finland that all stakeholders take part in the development of education in its all stages and phases: developing new curricula or qualifications or introducing new pedagogical solutions. Because of this, acceptance of changes, reforms and such are easier to reach as all parties are already aware of them and their contents. There is consensus that the way VET teacher education is delivered by all schools of professional teacher education provides student teachers with the necessary skills and competences to apply appropriate methods and tools for implementing competence-based VET in their daily work. As outlined in Section 6.1., during initial training of VET teachers, students not only receive theoretical knowledge and understanding of the approach, but they experience the approach and how it works, and what it requires, as go through all phases and stages of an education programme based on the competence-based approach (see discussion on ‘implicit embeddedness’ in the

previous sub-chapter). There is also consensus that VET teacher training programmes need to be continuously updated to be in line with policy developments and requirements, as presented in the box below.

Box 6. **Keeping teacher training programmes updated in line with policy developments in Finland**

The assignment of the schools of professional teacher education is not only to prepare teacher students with adequate skills and competences to be able to work within the context of VET in Finland but also to develop their education sectors, taking into account developments in the world of work and the professions.

To be able to fulfil this requirement, they develop and produc new pedagogical solutions through their research, development and innovation (RDI) activities, which are disseminated to and implemented with various education institutions and organisations through their education and development services. Also, a wide range of professional development programmes for education professionals are offered by the schools of professional teacher education.

Training providers for VET teachers need to adapt whenever there are new developments or changes at the national level, such as the introduction of the element of personalisation in the provision of VET, made mandatory by the latest VET reform of 2018. This also includes adapting curricula for VET teacher training to match the changing demand better. This kind of development work is continuous. As stated by one of the interviewees, there are no profound flaws in the current or previous curricula, but one must adapt them to the changes in the surrounding environment.

Source: Authors, based on country research on Finland.

Learning outcomes are an intrinsic part of the system in Ireland, among training providers who are aware of the theoretical and practical arguments. Initial teacher education courses analysed need to prepare teachers for teaching in a practical way and therefore include exercises which involve student teachers critiquing them as well as writing their own learning outcomes. Also, the approach taken by the providers in Ireland aligns with the overall approach to learning outcomes. An appropriate characterisation of the situation is as streams that flow in the same direction, sometimes in parallel, sometimes inter-twining but always with the same aims in mind. One of these streams concerns the development of learning outcomes as the basis for national further education and training awards, while the other concerns teaching practice in which learner-centredness seems to be the dominant educational paradigm. The whole system is evolving in the same direction. It was confirmed by interviewees that pedagogies are largely left to the teaching community in further education and training.

According to one of the representatives of institutions preparing teachers for further education and training, there were some concerns at the start that the

introduction of learning outcomes through the Common Awards System ([14]) might mean that facilitation of learning and learner-centredness could be taken away. Teachers in further education and training did not want to replicate the common 'traumatic cultural experience of the Leaving Certificate' in which teaching and learning was driven by external assessment. In the Post-Leaving Certificate space there is more autonomy (it is the realm of statements of what is required from a programme, learning outcomes and module descriptors) and the content provided in curriculum documents is indicative while the assessment specification is not detailed (e.g. 60% portfolio, 40% exam). This seems particularly important for soft skills which can be taught in 'completely different ways', though the learning outcomes are the same. The question for the providers of training for VET teachers and trainers then becomes 'how do we help further education and training teachers to do this?' In further education and training, teachers need to know how to design assessment methods and learning outcomes, more than in primary and secondary where staff defer to the State and to external assessment (seen as an expertise they do not have).

Among French national higher institutes of teaching and education there is a consensus that national directions regarding the competence-based approach and the reference frameworks provided by the Ministry of Education and the Ministry of Higher Education are useful. These Institutes seek a coherent approach balancing between the requirements from both ministries on training VET teachers and using the competence-based approach in teaching practice. Given that they are public education institutions, they are bound to follow and implement the guidelines provided by the ministries, hence their use of the competence-based approach is significantly aligned with the government discourse and policy. The institutes have progressively made the competence-based approach more visible in their master programmes in teaching, education and training professions (for both general education and VET teachers), and they explicitly base them on the 2019 reference framework. There is also the perception that teacher trainers from the professional sector are much more used to the competence-based approach: learners who enrol in the master programmes in teaching, education and training professions to become VET teachers are often atypical as they already have professional experience and are participating in retraining to become teachers. In comparison, future VET teachers in general disciplines (e.g. history, French language, philosophy) have not had any previous professional experience in an

([14]) The Common Awards System was introduced in 2007 and was designed to provide amodularised system of awards standards for vocational qualifications and to facilitate progression and flexibility for learners (i.e. portability of minor awards).

enterprise, so they may experience some difficulty adapting to the competence-based approach.

Even in some countries where the learning outcomes approach does not have such a long tradition in the VET system, training providers for VET teachers are found to be supporters of this approach. In Malta, for example, this is clearly reflected both in the inclusion of learning outcomes in teacher education courses and in ensuring that new teachers in VET are trained to teach within the learning outcomes framework. All three teacher training providers interviewed have aligned their training and discourse around the use of learning outcomes and have the autonomy to decide what to include in their teacher training courses, and thus how much to dedicate to the learning outcomes approach. They prepare VET teachers to use and apply learning outcomes once they graduate and start teaching VET subjects. In VET teacher education curricula, learning outcomes are embedded both in the parts dealing with general pedagogy and in teaching practice when students teach in secondary schools or in VET institutions offering VET subjects.

In Lithuania, representatives interviewed among the selected providers all accept that competence-/learning outcomes-based teaching and learning is now an established practice in VET in the country. This is understood as the mainstream approach, which meets the demands of VET, which is to prepare people for work in particular occupations. Approaches taken by the providers and the government discourse and policy also largely align.

For Poland, it can be said that the attitude of the interviewees is ‘informed acceptance and support’. There was no mention of a substantial academic debate on the learning outcomes approach in school-based VET, which seems to be more present in higher education in relation to university programmes.

A specific situation can be identified in the Netherlands: there is close alignment with national policies and discourses and learning outcomes approaches are fully integrated in VET and universities of applied sciences (providing teacher training). However, a more mixed perception on this approach can be observed among teacher training providers (Section 6.2.2).

6.2.1.2. *Interviewee perception of learning outcomes benefits*

The benefits of using learning outcomes are acknowledged by providers of training to VET teachers and trainers. This is because the use of learning outcomes increases the transparency of teaching and learning and informs the type of pedagogy and form of assessment to be applied (as in Lithuania and Malta). This also gives much freedom to individual teachers to choose best approaches and methods to develop the competences and learning outcomes defined in national reference documents (e.g. in Lithuania). Learning outcomes are seen as essential

either to promote meaningful and high-quality VET training (in Portugal), or as a central element in the delivery of VET (in Lithuania): in the context of VET, the focus on competences, learning outcomes and teaching and learning approaches such as problem-based or experiential learning is unavoidable as they comprise the core of VET didactics.

This is also highlighted in Finland, where the competence-based approach itself and its basic elements – recognition of prior learning, personalisation, work-life relevance, and cooperation – are seen as beneficial in reaching the goals set for the overall provision of VET. It is perceived that the approach enhances the flexibility of VET. For instance, the use of learning outcomes allows teaching and learning to be more individualised (in terms of pace, contents, and required duration) and cater to the diverse needs and abilities of VET learners. Also, student satisfaction seems to be at very high levels according to various survey results. Benefits for learners are also highlighted by interviewees from France as the competence-based approach allows students to discover the practical aspects of their future profession (what they will face in schools and classrooms) and not only worry about preparation for the competitive examination at the end of the first year. The approach is considered as useful to help students acquire the professional competences they will need for their future work, which would be beneficial for teachers as – according to a representative of a provider of training for VET teachers and trainers – 'it creates a bond and gives meaning to the teaching experience'.

Another benefit observed is that the learning outcomes approach favours collective work with colleagues from different disciplines (France) and provides a 'language of communication' for the purpose and overall aims of education (Poland). In Poland, learning outcomes are used in consultations with employers, which helps to improve the relevance of VET programmes. It is important to note that the learning outcomes approach assumes a learner-centred pedagogy and an active role of students in the education process. The coordinators of teacher training programmes are in favour of the application of the learning outcomes approach, especially in vocational education. In their opinion, well-defined learning outcomes (as in the core curriculum) help inexperienced teachers to plan and carry out their teaching activities (they create a scaffold).

6.2.2. Critical considerations

The critical considerations discussed in this sub-section relate to the lack of, or unclear, correspondence between the approaches used by providers who train VET teachers and trainers and national discourses and policies, as noted in some

cases. They refer to repeatedly expressed dissatisfaction with certain aspects of the implementation of the learning outcomes approach.

6.2.2.1. *Lack of or unclear alignment with national discourses and policies*

Although a positive view towards learning outcomes is expressed by interviewees, a mixed situation related to the alignment of the approach taken by the providers with national discourses and policies is reported in Bulgaria and Portugal ([15]).

In Bulgaria, providers of training for VET teachers and trainers support the learning outcomes approach and offer programmes that focus on the use of learning outcomes in accordance with the regulations. Providers utilise their autonomy to introduce a learning outcomes approach covering different aspects, such as techniques for developing student skills for autonomous learning (using ICT), and use of project based-learning and interdisciplinary approaches in the delivery of educational content. However, the evidence collected (from documentary research and interviews) suggests that the learning outcomes approach in a VET context is not really embedded in initial teacher training. Of note is that in initial teacher training there are no specific courses or programmes ([16]) that target exclusively VET teachers, whereas in CPD provision, the number of such courses is limited. Interviewees explained that this low number is related to low demand, which may have several causes. For example, vocational schools that offer apprenticeships typically work with employers, and the professional development needs of vocational teachers may be met through non-formal or informal learning opportunities offered by these employers, such as organising a workshop or capacity-building events to learn about the employer's perspective and new developments in a particular occupation.

In Portugal, despite the discourse and the changes introduced, the learning outcomes approach has not yet been officially integrated into all teacher training programmes, as outlined in the box below.

([15]) In Poland, this alignment is unclear: According to the declarations, there are no discrepancies between national policy and the approaches promoted by teacher training providers. However, what seems to occur in practice, in the actual implementation of VET, cannot be stated based on the available information.

([16]) Countries adopting a consecutive teacher education programme tend to include the pedagogical component of teacher education only at master level, while bachelor studies focus only on subject-specific knowledge; this explains why there are no specific courses targeting VET teachers in Bulgaria.

Box 7. **Learning outcomes approach in teacher training programmes in Portugal**

The last revision of the curriculum for the initial pedagogical training of VET trainers took place in 2011. At the time, it was planned to proceed with the revision of the profile of VET trainers and the curriculum of initial pedagogical training for trainers, but this never happened ([17]). From the interview with the representative of the National Training Centre for Trainers, the national centre for the qualification of trainers, it appears that the revision of the curriculum for the initial pedagogical training of trainers has started, and the intention is to integrate the learning outcomes approach in this new revision ([18]). It is important that the initial pedagogical training for trainers includes two moments of simulation of a training session (learning by doing). These simulations take place at the beginning and at the end of the training course. In both moments, trainers are required to plan, prepare and facilitate a session on a topic of their choice, while also integrating an activity to evaluate the training of other colleagues. The simulations conducted at the beginning of the training are the starting point to discuss the attitude/behaviour of the trainers, the process of planning the sessions, the methods and activities promoted, and the strategy for assessing learning. All these topics are covered in detail in the remaining modules: at the end of the training, the trainers prepare another session to operationalise what they have learned. This last simulation is also a moment of evaluation for the trainers.

As for the continuous pedagogical training of trainers, which is also the responsibility of National Training Centre for Trainers, the curricula of the courses are structured based on learning outcomes, but the subject itself is not directly addressed. The curricula for continuous pedagogical training, developed by the Centre and offered by the Employment and Professional Training Institute centres based on the learning outcomes approach, have been developed since 2015-16. The methodology used by teacher trainers also reflects the learning outcomes approach and is commonly used.

The reality of continuous technical training for trainers, which is not compulsory everywhere, may vary depending on business sectors, areas of education and training, professional qualifications and providers.

From the desk research, it appears that the learning outcomes approach is implicit in the provision of teacher training. Among the organisations and trainers interviewed, it is also clear that they use the learning outcomes approach to structure the provision of teacher training.

Source: Authors, based on country research on Portugal.

6.2.2.2. *Dissatisfaction with learning outcomes implementation*

Most critical comments in this context refer to specific aspects of the implementation of the learning outcomes or competence-based approach.

([17]) From the perspective of the researchers this may be a result of the economic crisis in Portugal from 2010-14 that required revision of the public administration.

([18]) A survey addressed to trainers and tutors was launched at national level, to understand the perception of these professionals towards the curriculum and receive inputs to feed the revision.

In Finland, for example, where there is a deep consensus and high acceptance of the competence-based approach in VET (*osaamisperusteisuus*), critical views and questions are more about how this approach is implemented and how it is understood in practice. It is questioned whether there are enough supporting measures for practitioners on the ground to implement it most effectively and successfully. One strand of critical discussion (which is more of an academic debate related to higher education), deals with the question of whether the implementation of the competence-based approach should be understood as linear or dynamic (Section 6.1.1):

(a) a linear understanding of competences sees skills and competences as purely results and end products of learning narrowing them to 'mechanical and technical' activities. Such interpretation of the competence-based approach emphasises learning outcomes as a form of desired end behaviours and as structuring of competences into clear goals. This would be close to the behaviourist theory. In the Finnish education system the linear interpretation is most pronounced in upper secondary VET and is referred to as the competence-based approach;

(b) a dynamic understanding of skills and competences sees them as part of a wider development of a person and that person's overall growth. The focus is on the person as an active agent and subject of learning. Such interpretation of the competence-based approach is seen as guiding students to identify their own development potential, develop their creativity and professional capabilities. It is based on increasing individual potential and multifaceted activities. The key aims are to support the linkage of desired competences to learning and to the student's prior learning experiences and visions for the future. This will contribute to the student's attachment to the learning and orientation in life after education and training, and social responsibility (Vilppola et al., 2020).

Criticisms of learning outcomes approaches in Ireland seem to be most pronounced amongst (some) within the adult and community education space, who see learning outcomes as part of the state's new definition and way of organising further education and training, which they critique as 'neo-liberal' and focused on economic priorities, squeezing out other (Freirean) ways of thinking about and teaching adult and continuing education which stress principles of dialogue, cooperation, grassroots education and equality (Fitzsimons, 2017). Educators with a strong adherence to critical pedagogies like those of Paul

Freire ([19]) continue to be critical of learning outcomes approaches as narrowing down the curriculum and attuning programmes too much to the labour market and, in the process, marginalising more transformative forms of adult education ([20]). But others have been able to reconcile such considerations with the need to prepare teachers for the job they will have to do. One interviewee mentioned that they had been able to 'harmonise two conflicting lines of thought' in their approach to learning outcomes:

(a) on the one hand, the dominant constructivist/social constructivist (people construct learning in groups) approach points to individualised learning (need to ensure that each individual does not construct something completely different to the next person);

(b) on the other hand, behaviourism is related to clear learning outcomes, which the interviewee defined as a 'specified destination.' 'Somewhere within the teaching I try to negotiate the route … and make it compatible with how they [the students] want to get to the destination.'

This interviewee therefore reconciles competing philosophical positions by differentiating the destination from the journey. Several interviewees mentioned constructive alignment – rooted in constructivist philosophy – as being, in the words of one, 'how we've all learnt the value of learning outcomes' since it shifts the focus on to 'assessment as and for learning' rather than 'assessment of learning'. This appears to have been a significant part of how learning outcomes have come into higher education programmes in general (via Bologna) and again emphasises the importance of looking at the pedagogies used to teach further education and training pedagogies.

Nevertheless, despite the reservations of individual teacher trainers, it can be concluded that, in Ireland, they see it as their responsibility to equip future and current teachers with the skills they need to teach programmes based on learning outcomes, while also making them aware of the arguments for and against learning outcomes that stem from different educational philosophies. Teacher educators make student teachers – and existing teachers through CPD courses – aware of the potential pitfalls of learning outcomes (e.g. in terms of prescribing learning too

([19]) Paul Freire was one of the most influential philosophers of education of the twentieth century. His major work, *Pedagogy of the oppressed*, formed the basis for critical pedagogy, which perceives education as being inherently political and encourages learners and teachers to question commonly accepted assumptions that expose hidden power structures, inequalities and injustices in society, Freire's approach to education can be described as learner-centred (with teachers in the role of coaches) and problem-centred, and closely linked to social activism. See e.g. https://freire.org/

([20]) Criticisms of FE awards are that they are too 'instrumental', over-assessed, over-prescribed and struggle to accommodate soft skills such as care and empathy.

narrowly) so that they can knowledgably and critically implement learning outcomes-based curricula. For example, student teachers are taught critical interpretation of learning outcomes contained in national qualification specifications, so they may write their own for use in the classroom to enable more learner-centred methods to be used while also enabling leaners to achieve the learning outcomes and obtain qualifications.

Similar issues have been raised in the interviews with providers of training for VET teachers and trainers in Lithuania. Although they seem to appreciate the advantages of the learning outcomes approach, they believe that even the rather general statements of the qualification standards are more prescriptive and therefore limit the freedom of VET teachers and trainers. They also believe that the use of learning outcomes leads to a focus on knowledge and skills, while less attention is paid to values and attitudes and learner identity. In their view, setting common requirements at national level to be met equally by all learners (with different identities, backgrounds, levels of motivation and ability) partly contradicts the principles of individualised, learner-centred, humanistic teaching and learning. One interviewee also pointed to the behaviourist bias and argued that the assessment of whether certain competences (and learning outcomes) have been achieved is always relative, based on what can be observed at the time rather than actual achievements.

There are also some reservations in Malta, mainly related to the way the learning outcomes for VET are applied. In this context, the learning outcomes are seen as restrictive as they do not allow for flexibility in learning and do not provide room for unintended learning. Criticism directed at the rigidity with which they are implemented refers to the significant amount of control on ensuring that the students achieve the outcomes at the expense of not allowing possibilities of other learning which may take place. Interviewees expressed concern that the learning outcomes approach could become a simple process of checking boxes, causing the quality of learning to take a back seat. It is also seen critically as such, although one aim of implementing the learning outcomes was to give students the opportunity to progress at their own pace, in practice this is not being realised. The main obstacle is the tight assignment of learning outcomes to specific school years, which makes it impossible for students to progress at their own pace (for example, according to a personal learning plan). This approach makes learning less student-centred.

Representatives of VET teacher training providers in Portugal pointed out that the policy discourse on learning outcomes needs to be clearer, more continuous and must translate into concrete and operational actions to become a reality. In short, the main challenges are in operationalising the learning outcomes approach

in terms of learning methods, activities and assessment. This is similarly expressed in Slovenia, where the learning outcomes approach is associated with rapid adoption of European policies, leading to problems in their uptake and implementation in teacher practice. There seems to be little awareness of the approach among teacher training providers and their administrators. Another challenge in Slovenia is the fact that teachers of general education subjects (such as Slovenian language and mathematics), who teach simultaneously at grammar schools and in VET, are confronted with different concepts and are not always oriented towards learning outcomes.

Interviewees from Bulgaria report that, although learning outcomes of VET subjects have been well embedded in State education standards, this does not mean that VET teachers know 'by default' how to apply them in curriculum design, delivery and assessment. Teachers in VET-specific subjects are exempt from acquiring the qualifying teaching certificate, which means that national policies do not address the training needs of VET teachers. This is reflected also in teacher training provision.

Critical remarks from France refer to the issue that the top-down dissemination of the competence-based approach (from the ministry to teacher training institutions through national guidelines) is not always done by staff trained in this approach. Some interviewees point to a misunderstanding in which competences 'exclude' knowledge and emphasise that more efforts are needed to help teacher trainers to understand the meaning and usefulness of the competence-based approach.

A more mixed perception can also be observed in the Netherlands, where the discussion around competence-oriented VET practice has a long and turbulent history. These discussions appeared mostly around 2005-15 and the intensity decreased with changes to the VET act and the structure and descriptions of learning outcomes/competences in the qualification files in 2016. Since then, all VET schools work with the revised qualification files. With the revision, qualifications are more structured in the basic format, profile modules and elective modules (Broek, 2022). The political discourse did not substantially change as the practical discussions on how to use competence-oriented approaches in developing programmes and organise assessments continued (Vanderlinde, Godaert & Keppens, 2020). The issues being discussed are presented in Box 8.

Box 8. **Perception of competence orientation in VET by providers of training to VET teachers and trainers in the Netherlands**

The role of 'competences' in the Dutch VET system is subject to debate on how to operationalise competence-based education and training (*competentie-gericht onderwijs*) since its initial introduction in 2004 (Klarus, 2020). The introduction of this is regarded by many practitioners and researchers a failure, which is partly resolved in the qualification files that focus less on uncontextualised competences and more on core tasks and work processes relevant for a particular occupation.

In this respect, the increasing focus on competence development in current teacher education programmes can be seen as a response to the criticism that theoretical and abstract teaching does not, or not sufficiently, meet the demands of practice (Mulder et al., 2009). Today's labour market no longer demands only factual or subject knowledge, but also expects higher cognitive skills that can be applied in different contexts. In the past decade, various framework concepts have been developed and implemented that shape competence orientation in teacher education.

Although the concept of competence is popular in many teacher training programmes, it is also under debate. Because no unambiguous conceptualisation exists, but also because of methodological challenges in applying it in teacher training (Vanderlinde, Godaert, & Keppens, 2020). Conceptually, the competence orientation is interpreted in the teacher training field in two ways. First, a competence is conceptualised as an integrated set of knowledge, skills and attitudes. Second, a competence is conceptualised as observable behaviour or performance. The difference in interpretation has implications for how teacher training is organised and how competences are assessed: either looking at dispositions (are teachers well equipped to perform the tasks?), or observable behaviour (do teachers show the desired behaviour in real practice?) (Vanderlinde, Godaert, & Keppens, 2020). The critique on the first approach is that it is technical-reductionistic: it assumes that if you have all competence-parts, the person is competent. In terms of programme design and assessment, this approach is helpful. The critique on the second approach is that is it challenging to design a training programme around this notion and also that, as assessor, you do not know whether the teacher is showing the desired behaviour out of competence or not.

Source: Authors, based on country research on the Netherlands.

6.2.3. Provision of specific resources and support

This section addresses the extent to which the learning outcomes approach is supported by the providers of training for VET teachers and trainers. The focus is on the provision of specific resources at the institutional level, or whether individual teacher educators and trainers are left to decide in what ways they teach VET practitioners about learning outcomes. The question of whether individual teacher educators and trainers receive learning outcomes materials or other types of support from their professional associations or other non-governmental stakeholders is also discussed.

Specific support related to the learning outcomes approach is made available by teacher training providers or other non-governmental stakeholders in only a few cases.

(a) In France, teacher training institutions provide ad hoc training to teaching staff related to the competence-based approach, in the form of five or six sessions a year where they work in groups with external experts and national higher institutes of teaching and education staff (directors and programme coordinators of the master programmes in teaching, education and training professions for future secondary school teachers). The focus of these sessions is either understanding the competence-based approach (so that the confusion about 'knowledge-oriented content being left behind' is addressed) or learning about assessment using the competence-based approach, including methods.

(b) In Malta, there is no teacher training provider association and there are no specific guidelines on the implementation of learning outcomes published by any other association. However, three key providers of training to VET teachers and trainers support their staff with writing learning outcomes when developing their own curricula, through training sessions and internal documents/guidelines. Teachers are also offered specific support related to the learning outcomes approach by teacher training providers. Both the Institute for Education and the Faculty of Education stated that VET teacher trainers are provided with training and support to ensure that they keep up to date with developments at national and European level. This also applies in the case of training and knowledge about learning outcomes. The Faculty of Education has a system of financial support (known as Academic Work Resources Fund) to allow teacher trainers to engage in training and networking for professional development. The Institute for Education ensures that its teacher trainers are kept up to date with developments and promotes their professional growth through training sessions organised for its academic staff. The Malta College of Arts, Science and Technology also has a system of professional development. It has, in the past year, included CPD sessions on using learning outcomes to ensure that all its academic staff are conversant with any developments in the use and application of learning outcomes (from writing learning outcomes, to planning of learning activities, to designing assessment tasks in line with learning outcomes). It has also produced a training guide for academics to use and consult in their work. This guidebook takes VET teachers through the process of developing and writing learning outcomes for their courses. It includes specific advice on how to complete the template for course descriptions which also require writing learning outcomes.

(c) In Bulgaria, support related to the learning outcomes approach is sometimes provided by other organisations. Associations or NGOs may develop such guidelines within EU-funded projects. For instance, the Modern Education Foundation developed the Training methodology for trainers of mentors in dual education, as well as a toolkit for mentors in dual VET within the Erasmus+ Sustain VET project (Sustain VET). Figure 2 below illustrates a tool that mentors can use for supervising apprentices; the tool considers learning outcomes indicators.

Figure 2. **Learning outcomes indicators: example from the SUSTAIN VET project**

OVERALL SUPERVISION				
Competence for performing the task	Monitoring period (date from-to)	Completion date	Signature of the mentor	
Title of the work situation that provides final product/service				
DOMAINS AND LEVELS OF MONITORING				
1. Direct supervision				
Functional knowledge and competences	Work situation 1	Work situation 2	Work situation 3	Work situation 4
In the blanks for each work assignment, note the readiness of the student to continue with the next work assignments ("C-poor", "B-solid" or "A-excellent")				
The apprentice connects knowledge with work and everyday life				

Source: SUSTAIN VET toolkit for mentors in dual VET, p. 25.

In most countries covered by the study, providers of training for VET teachers and trainers or other non-governmental stakeholders do not offer specific support related to the learning outcomes approach.

In Finland this is justified by the fact that the competence-based approach has already been implemented in practice for several decades; the supporting measures do not directly address the issue. Although there are various support measures for the teaching staff of VET institutions, such as internal seminars, internships outside their own organisation, materials and guidelines, these do not directly deal with the issue of the competence-based approach. This applies to both initial and continuing training measures. This was different at the time that the competence-based approach was introduced in Finland in the 1990s: massive support measures were put in place, financed by the Ministry of Education and Finnish National Agency for Education (*Opetushallitus*), to support the implementation of the approach, including materials, guidelines, training courses, and in-house training. The labour union for teachers provides support with implementing competence-based VET provision but this support is targeted to VET teachers directly, not to professional teacher education schools ([21]).

In the Irish context such support is not needed, given the level of embeddedness of learning outcomes in the system. Those involved in delivering further education and training teacher education courses must prepare the learning outcomes and teaching methods for the course anyway.

Interviewees in Slovenia pointed out that no attention has been paid to learning outcomes. General guidelines for the implementation and use of the Slovenian Qualifications and Learning Outcomes Framework in practice are available but they are not specifically targeted to teacher training providers or teacher trainers.

In Lithuania, no tangible materials such as training, guidelines, or strategic documentation that would explicitly mention learning outcomes were identified. Based on examples explored, it seems that the topic of learning outcomes is introduced mainly at the initiative of programme coordinators (by individual or collective decision of a responsible committee) and individual teacher

([21]) Supporting measures for vocational teachers include providing information on some aspects of implementation, e.g. they have published guidelines on the use of apprenticeship and the training agreement as part of work-based learning. In addition, they monitor implementation and, when necessary, issue official macro-level statements to support further improvement in implementation. The most recent example is that the education union (*Opetusalan Ammattijärjestö*) has put pressure on the MEC and EDUFI to accelerate the updating of the national guidelines for the recognition of prior learning. As a result, the new guidelines should be published by the end of 2023.

trainers/lecturers. This is influenced by national policy and guidance on the topic as national authorities (government bodies) provide several resources on learning outcomes (but non-governmental stakeholders do not).

In Poland, no materials specifically on learning outcomes are provided apart from documents and guidelines offered by ministries of education and higher education.

6.2.4. Conclusions on training provider views and approaches

The case studies show that there is broad support for the learning outcomes approach among the providers of training for VET teachers and trainers. It is recognised that 'the problem is not the learning outcomes *per se*, but the way they have been implemented'. Thus, it is important to get the application of the learning outcomes or competence-based approach right.

Key findings of this chapter by country are presented in the heatmap below. Green illustrates support for learning outcomes approaches, red equals lack of it.

Table 8. **Views and approaches of training providers for VET teachers and trainers**

Country	Alignment of provider practice with national policies and discourses	Dissatisfaction with the implementation of the learning outcomes approach	Resources and support on learning outcomes made available by providers or other non-governmental organisations
Bulgaria	Is lacking	Exists	Exist
Finland	Exists	Exists	Do not exist
France	Exists	Exists	Exist
Ireland	Exists	Exists	Do not exist
Lithuania	Exists	Exists	Do not exist
Malta	Exists	Exists	Exist
Netherlands	Exists	Exists	Not available
Poland	Exists	Not available	Do not exist
Portugal	Is lacking	Exists	Not available
Slovenia	Not available	Exists	Do not exist

Source: Authors.

The views expressed by the representatives of providers of training for VET teachers and trainers suggest that there is still much to be done to achieve effective implementation. For example, further clarification is needed on the functions and

roles of learning outcomes (emphasising that while learning outcomes provide important guidance for learners, educators, and institutions, they do not aim fully to predict and control the learning process). The way learning outcomes are used in teaching and training practice is further discussed. Although competing concepts and underlying theories coexist and can prove challenging for future VET teachers and trainers in applying learning outcomes in their practice, such discussions cannot be avoided.

Future teachers and trainers in VET need support and guidance to be able to meet the challenges they may experience, for instance, with balancing between common standards for all and individualisation of learning based on diverse learner needs. This requires different types of support measures and programmes as well as specific financial resources.

It is important to stress the need for coherence between what is taught in teacher training and what is done in practice. Some respondents pointed to a disconnection between pedagogical approaches and assessment practices and implementation practices. The extent to which such alignment is present or absent will be further explored – with a focus on pedagogical practice – in Chapter 7.

CHAPTER 7.

Perspective and experience of teachers

Key messages

(a) Most VET teachers and trainers surveyed indicate that they have been introduced to at least some of the aspects of the learning outcomes approach during their training.

(b) More than two-thirds of the survey respondents (71.6%) indicate that introducing learning outcomes in curricula in their country has had an influence on their teaching/training practice.

(c) More than a half (52.7%) of surveyed VET teachers and trainers feel prepared to teach a curriculum based on learning outcomes. More than 39% disagree.

(d) Overall, the survey revealed that VET teachers and trainers acknowledge the benefits of the learning outcomes approach for students and themselves. However, they have significant concerns regarding how learning outcomes are defined and implemented.

Source: Authors.

This chapter explores the opinions of VET teachers and trainers. Sections 7.1-7.4 cover aspects related to their exposure to the topic of learning outcomes in their initial and continuous training, perceived usefulness of learning outcomes, and preparedness to apply learning outcomes in practice.

The analysis builds exclusively on the data collected through the survey ([22]). A total 482 responses were collected from 10 countries studied ([23]) (see Table 8). This chapter is focused on analysis of the total sample of VET teachers and trainers, rather than cross-country analysis. For illustration of hypothetical differences among countries, three case studies (Lithuania, Malta, and the Netherlands) with a relatively higher number of responses were analysed in more depth.

([22]) The survey targeted VET teachers, trainers, school principals and curriculum coordinators. It aimed at exploring the awareness, perceived usefulness, and actual application of the learning outcomes approach in initial vocational education and training (IVET). It also examined the guidance and support VET practitioners get with using learning outcomes. The survey was launched on 25 May 2023. More information on it is available at https://www.cedefop.europa.eu/en/news/vet-practitioners-voice-be-heard

([23]) As the country representation is not equal, results in overall findings move closer to the perception of some country respondents than of others.

Table 9. **Country representation of survey participants (number and % of answers)**

Country	Number of respondents	% of respondents
Bulgaria	15	3.1
Finland	54	11.1
France	15	3.1
Ireland	11	2.3
Lithuania	95	19.6
Malta	71	14.7
Netherlands	115	23.8
Poland	26	5.4
Portugal	53	10.9
Slovenia	29	6
Total	**484**	**100**

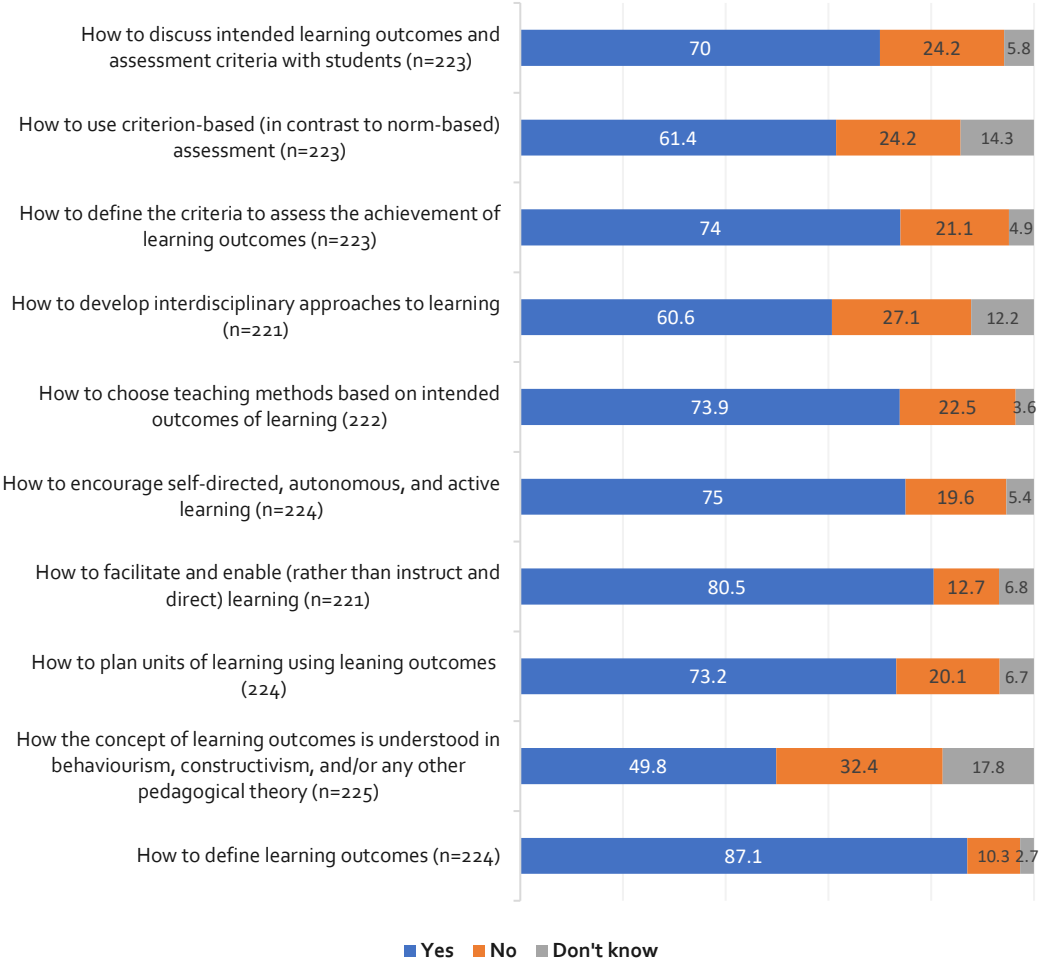
Source: Authors.

7.1. Exposure to learning outcomes in teacher training

Most VET teachers and trainers surveyed have been exposed to some aspects of the learning outcomes approach during their training; most respondents have been introduced to the basic idea of the learning outcomes approach and how to use it in daily teaching practices. Specifically, 87.1% of respondents have been introduced to the way to 'define learning outcomes', 80.5% have been taught 'how to facilitate and enable rather than instruct and direct learning', and 75% have been familiarised with techniques 'to encourage self-directed, autonomous, and active learning'. This demonstrates a widespread familiarity with the basic concepts and methodologies associated with the learning outcomes approach among the surveyed VET practitioners.

The data also show a positive trend in training VET teachers and trainers regarding the use of learning outcomes. A significant majority of respondents have been taught essential aspects of using learning outcomes such as defining assessment criteria to assess learning outcomes (74%), selecting teaching methods based on learning outcomes (73.2%), planning learning units using outcomes (73.2%), and discussing learning outcomes and assessment criteria with students (70%). However, survey results also indicate a gap; one fifth of respondents have not received training in these areas during their initial or continuous training.

Figure 3. **As part of your initial training or subsequent professional development activities, have you been introduced to the following?** (% of those who responded)



Source: Learning outcomes survey.

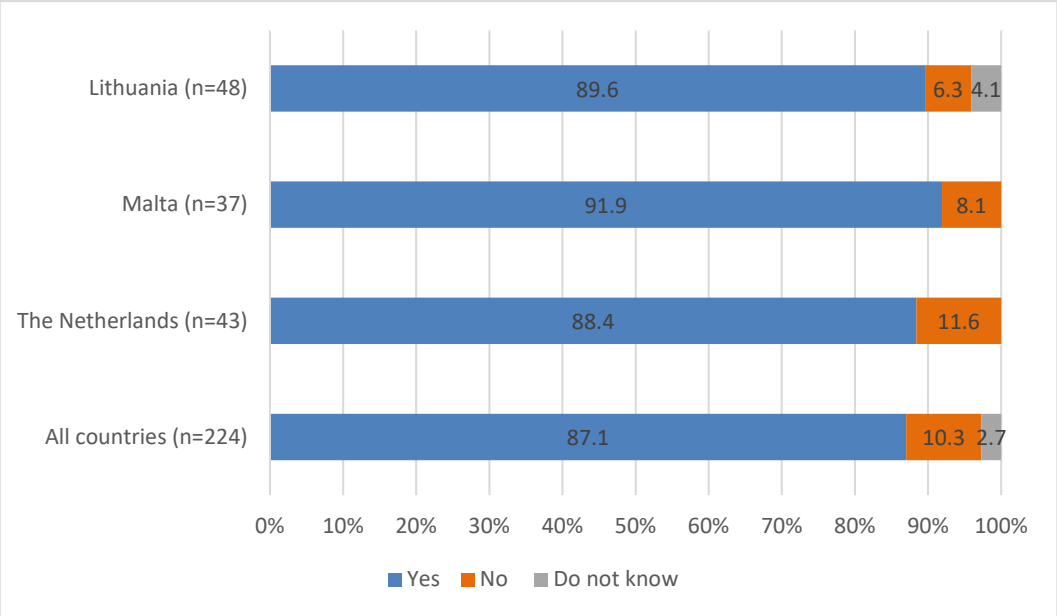
The survey reveals that VET teachers and trainers are more familiar with the practical aspects of the learning outcomes approach than with its theoretical foundations. Only 49.8% have been introduced to theoretical understanding of learning outcomes in various pedagogical theories, with 50.2% either not exposed to this knowledge or choosing 'don't know.' This suggests a noticeable trend of greater practical understanding compared to theoretical comprehension among the respondents.

The sample size of most country case studies does not permit comparison across all 10 countries studied. In three countries (Lithuania, Malta, and the Netherlands) in which the sample size of VET teachers and trainers is higher, some general trends can be explored in more detail, though the sample size and data

structure do not allow for generalisation of results related to the full number of VET teacher and trainer populations in these countries.

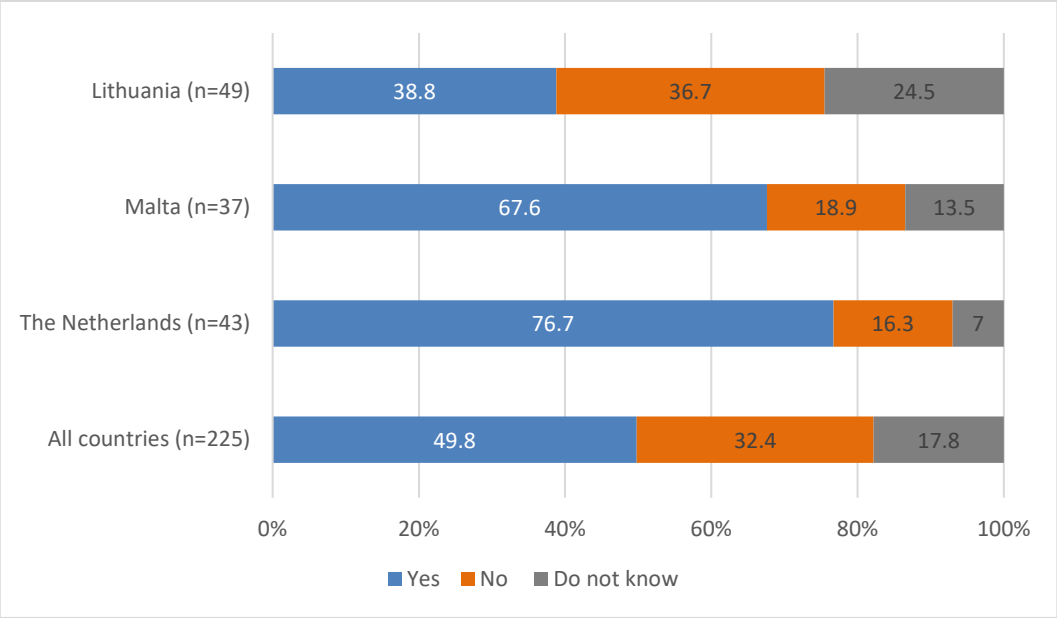
For instance, a common trend is observed in exposure to defining learning outcomes in VET. A similarly high share of VET practitioners in Lithuania, Malta, and the Netherlands have been introduced to ways of defining learning outcome statements as part of their training (see Figure 4). In contrast, differences were found concerning the theoretical framing of learning outcomes approaches. Several VET practitioners in the Netherlands have been taught about how learning outcomes are understood in different pedagogical theories (76.7%) but, in Lithuania, only 38.8% of surveyed VET teachers and trainers were exposed to this during their training (see Figure 5).

Figure 4. **As part of your initial training or subsequent professional development activities, have you been introduced to the definition of learning outcomes?** (% of those who responded)



Source: Learning outcomes survey.

Figure 5. **As part of your initial training or subsequent professional development activities, have you been introduced to the way the concept of learning outcomes is understood in pedagogical theories?** (% of those who responded)

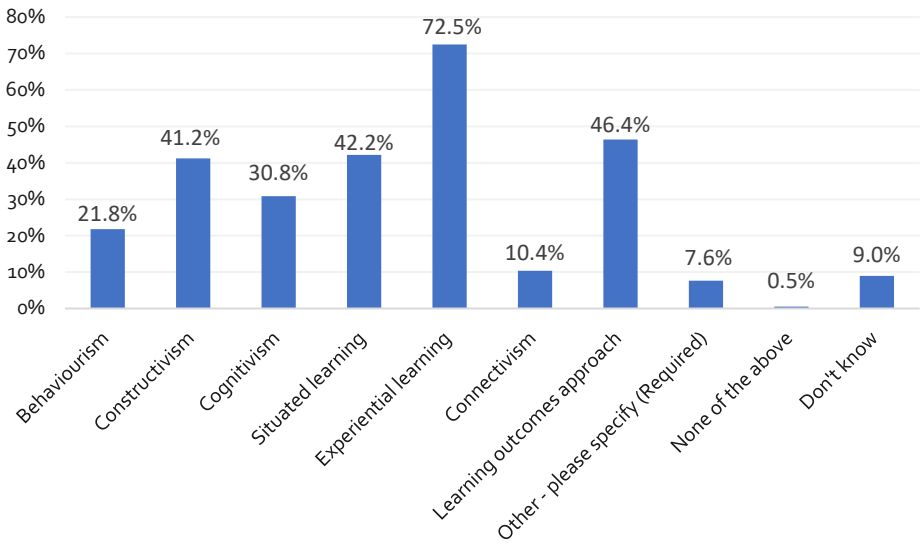


Source: Learning outcomes survey.

7.2. Learning outcomes approach and teaching practice

Among the pedagogical theories and approaches that have influenced VET teacher and trainer practice, the learning outcomes approach was the second most popular choice, recognised by 46.4% of respondents. Experiential learning was the top choice, mentioned by 72.5% of respondents (Figure 6).

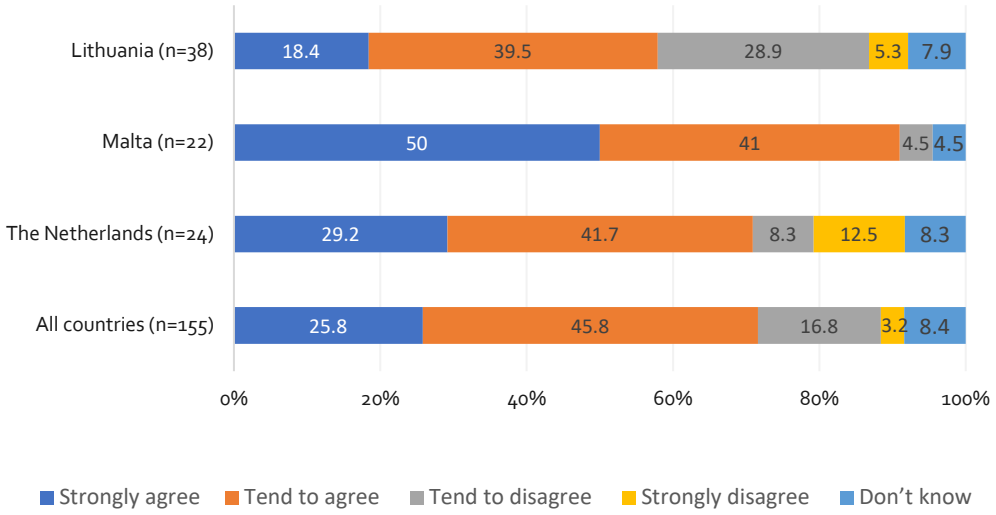
Figure 6. **Which of the following pedagogical theories and/or approaches have influenced your teaching and/or training practice?** *(multiple choice question)*



Source: Learning outcomes survey, n = 211.

Most respondents either ‘strongly agree’ or ‘tend to agree’ that introducing learning outcomes in curricula in their country has had an influence on their teaching/training practice (see Figure 7). Among three selected case studies, the highest influence of learning outcomes on teaching practice was reported by VET teachers and trainers in Malta (over 90% ‘strongly agree’ or ‘tend to agree’) and the lowest (yet still high) by those in Lithuania (57.9% agree to some extent).

Figure 7. **Introducing learning outcomes in the curricula has influenced my everyday teaching and/or training practice** (% of those who responded)

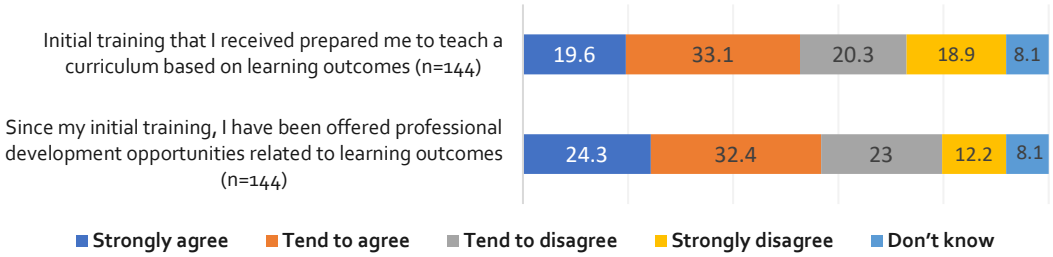


Source: Learning outcomes survey.

The survey aimed to assess how ready VET teachers and trainers feel about using the learning outcomes approach in their teaching/training. More than half of respondents (52.7%) agree that the 'initial training that [they] received prepared [them] to teach a curriculum based on learning outcomes'. Among these, 19.6% strongly agree with the statement, and 33.1% tend to agree. However, 39.2% to some extent disagree with the statement; 8.1% of respondents could not answer this question (Figure 8). This nearly equal split of positive and negative responses aligns with earlier findings indicating a lack of explicit introduction to the learning outcomes approach in some of the countries studied (see section 7.1).

CPD does not compensate for the lack of addressing the topic of learning outcomes in initial teacher education in full. Based on the survey, 56.7% of respondents have been offered professional development opportunities related to learning outcomes, and 35.2% have not. 8.1% of respondents could not answer this question (Figure 8).

Figure 8. **To what extent do you agree or disagree with the following statements?** (% of those who responded)



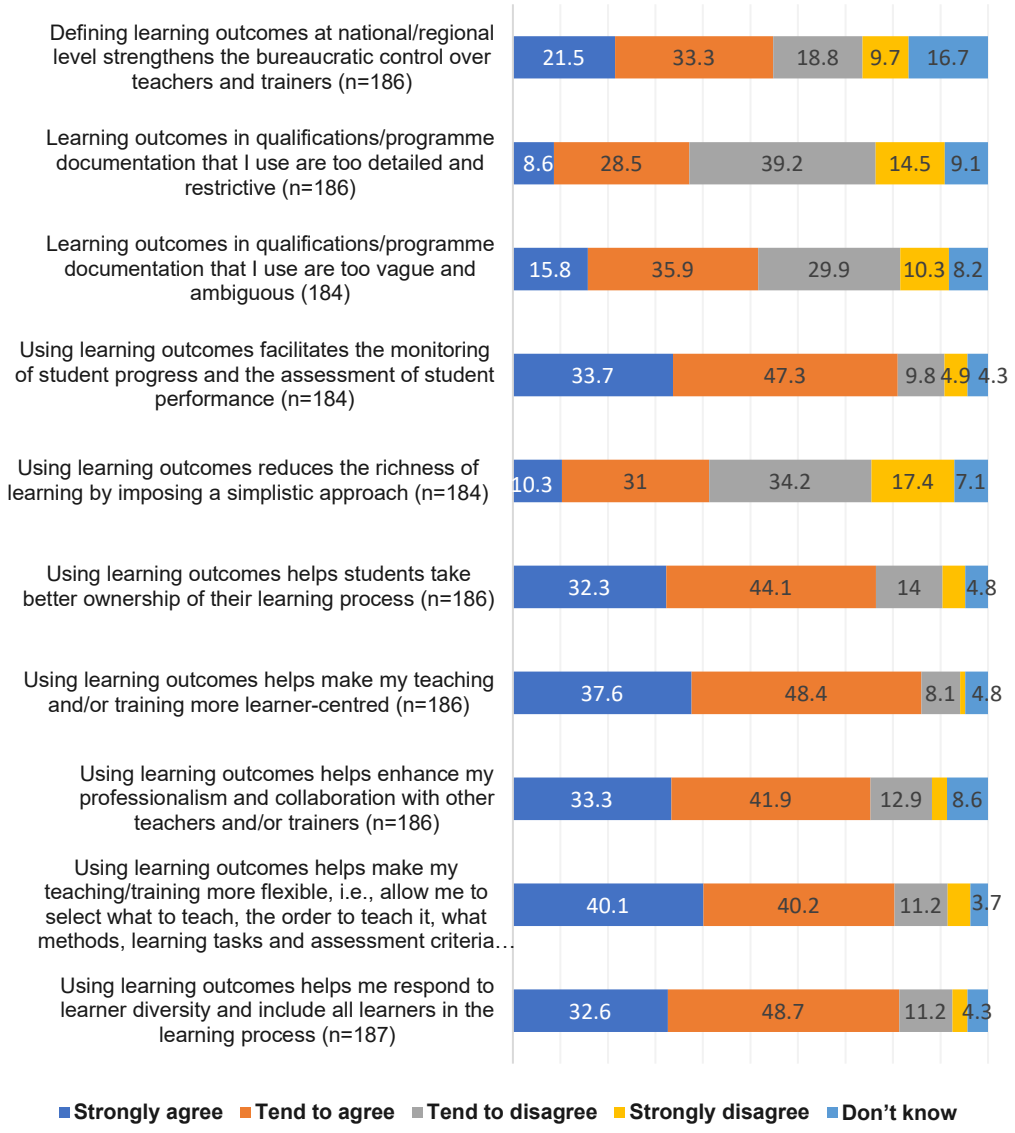
Source: Learning outcomes survey.

A closer look at three selected case studies indicates some differences in teacher and trainer preparedness to use learning outcomes. While Lithuania and the Netherlands follow a common trend, where just over half of respondents agree that initial training has prepared them to use learning outcomes, in Malta 75% of professionals share this opinion.

7.3. Perceived usefulness of learning outcomes

While most VET teachers and trainers have been introduced to some aspects of how learning outcomes are used, the survey revealed that they have mixed feelings about learning outcome descriptors in reference documents and the overall usefulness of the approach.

Figure 9. **To what extent do you agree or disagree with the following statements as a teacher and/or trainer?** (% of those who responded)



Source: Learning outcomes survey.

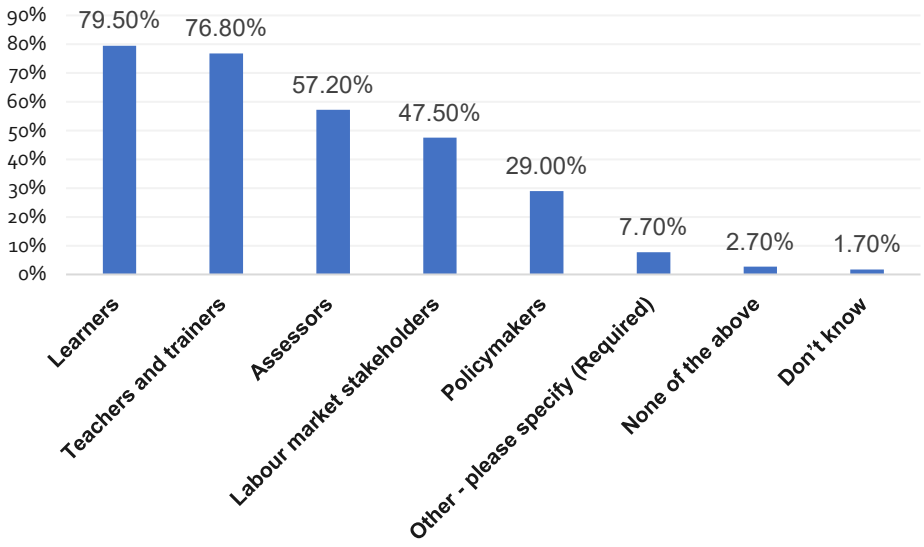
There seem to be different dimensions of the learning outcomes approach by which VET teachers and trainers assess its usefulness. Survey data in Figure 9 show that VET teachers and trainers find learning outcomes highly beneficial when it comes to the learner's engagement. A large majority of respondents 'strongly agree' or 'tend to agree' that using learning outcomes makes their teaching more learner-centred (86%), helps them respond to learner diversity and include all learners in the learning process (81.3%), and helps students take better ownership of their learning (76.4%).

The second popular perspective concerns benefits for teachers. Most of respondents ‘strongly agree’ or ‘tend to agree’ that using learning outcomes ‘facilitates the monitoring of student progress and the assessment of student performance’ (81%), ‘makes [their] teaching and/or training more flexible’ in terms of methods, content and assessment (80.3%), and ‘helps enhance their professionalism and collaboration with other teachers and/or trainers’ (75.2%). This trend indicates a positive perception among VET professionals, highlighting the advantages they see in employing learning outcomes, including improved assessment, teaching flexibility, and professional development through collaboration.

Similar benefits of using learning outcomes were highlighted by teacher trainers (see Section 6.2.1.2). They emphasised the freedom for individual teachers to choose best approaches and methods to develop the competences and learning outcomes defined in national reference documents (e.g. in Lithuania), the power of learning outcomes to connect teachers from different disciplines to collaborate (e.g. in France) and to communicate with colleagues using the same language (e.g. in Poland).

The significance of the learning outcomes approach for students and teachers is highlighted by the fact that respondents identified these two groups as the ones who benefit most from the approach (Figure 10). When asked to elaborate on their choice, the survey respondents primarily noted that the learning outcomes approach adds clarity, structure, and transparency to the teaching process both for the students and teachers/trainers, and allows them to indicate goals and have a clear vision of how to achieve them, which makes education more tailored. Some also noted that the learning outcomes approach facilitates internal collaboration between the teaching staff and external collaboration with labour market representatives. Respondents generally note that the learning outcomes approach provides a clear framework and guidelines, which allow the students, teachers/trainers and employers to be on the same page.

Figure 10. **Overall, I believe that using learning outcomes in vocational education and training is beneficial for… *(multiple choice question)***



Source: Learning outcomes survey.

Despite recognising the usefulness of the learning outcomes approach, VET teachers and trainers often disagree with how learning outcomes are defined in the reference documents and are implemented. For instance, more than half of respondents (54.8%) believe that 'defining learning outcomes at the national/regional level strengthens the bureaucratic control over teachers and trainers'. A 51.7% of surveyed teachers and trainers describe learning outcomes in qualification/programme documents as 'too vague and ambiguous', while 40% strongly or rather disagree with that (Figure 9).

Over a third of respondents (37.1%) believe that descriptors in qualifications/programme documentation they use are 'too detailed and restrictive'. Some 41.3% of respondents 'strongly agree' or 'tend to agree' that 'using learning outcomes reduces the richness of learning by imposing a simplistic approach' (Figure 9). Commenting on this, some respondents noted that, as a result, the quality of education and training suffers, and instead of being learner-centred, the approach results in 'ticking boxes' by teachers and students trying to ensure that all learning outcomes are reached.

These concerns echo the general criticism that the learning outcomes approach faces (see Section 4.2.1 on theoretical critique and Section 6.2.2 on critical views of teacher training providers).

7.4. Conclusions on VET teacher and trainer perspective and experience

This chapter indicates that over 75% of VET teachers and trainers surveyed had been introduced to some aspects of the learning outcomes approach during their training. Yet only 52.7% of all survey respondents feel ready to work with a curriculum based on learning outcomes, with 39% feeling not ready. A closer look indicates the tendency that teachers and trainers feel more prepared to use learning outcomes in some countries than in others; such is the case in Malta where three-quarters of respondents feel ready to use learning outcomes in their practice ([24]).

While teachers are familiar with some practical and methodological aspects of the learning outcomes approach, they often lack knowledge of its theoretical implications, as seen in Lithuania, where most of the VET educators surveyed were not introduced to the theoretical background of learning outcomes.

Nevertheless, over two-thirds of VET teachers and trainers surveyed claim that introducing learning outcomes in their country has had an influence on their teaching/training practice. However, this does not translate into very positive views towards the learning outcomes approach. While acknowledging the usefulness of the approach in general (as one that promotes student-centred learning, responds to student diversity, encourages student accountability, and fosters collaboration with colleagues), teachers and trainers often criticise how learning outcomes are defined and implemented.

([24]) Finding should be treated with caution due to the lack of comparable number of respondents in each country.

CHAPTER 8.
Conclusions

This report attempted to shed light on the influence of learning outcomes on mainstream pedagogical theory, and training of VET teachers and trainers in selected countries. Several insights were offered, exploring the shift to learning outcomes from the practitioners' perspectives and those in charge of implementing it.

First, learning outcomes-based approaches have different origins and have been influenced by different schools of thought. It follows that there is no single correct way of approaching them. The conceptual and theoretical understanding of learning outcomes influences the way they are interpreted and translated into practice. The selection of particular teaching methodologies and techniques has implications for the learners and the design of education and training programmes. The publication shows differences across countries in whether and how the learning outcomes approach is addressed and embedded in theories underpinning VET teacher training programmes.

In Bulgaria, Lithuania, Poland, Portugal and Slovenia no implicit or explicit references to learning outcomes were found in pedagogical theories. In countries such as France and Malta explicit links between the two were identified. In Ireland, the Netherlands and Finland, references to learning outcomes approaches in theoretical underpinnings of VET teacher training programmes were found to be implicit. In this context, implicit embedding means that the whole set-up of programmes familiarises student teachers with the principles of applying learning outcomes. Explicit embedding refers to explicit descriptions of learning content, modules and tasks by which student teachers learn how to use the learning outcome statements of their occupation field in designing and implementing their teaching and learning unit. This shows that the nature and the extent to which learning outcomes approaches are addressed in the theories that underpin VET teacher training differ.

Second, it can be concluded that different theories see the learning outcomes approach differently. Academic critiques of the approach tend to centre on the behaviourist interpretations, yet tensions exist between different commentators. Different criticisms noted in theory were noted in interviews with representatives of providers of training for VET teachers and trainers. These are generally supportive and accepting of the learning outcomes approach as associated with multiple benefits for both teachers and learners: the approach does not seem to be challenged among teacher training providers. However, a few of them are

dissatisfied with how the learning outcomes (competence) approach is implemented in VET in practice. Issues regarding this were noted in all countries studied, showing there is still much to be done to achieve effective implementation of learning outcomes in VET.

Overall positive views among providers might explain why they choose to present these approaches to future VET teachers and trainers. This publication shows that learning outcomes approaches are presented to future VET practitioners in practically all countries studied, regardless of not being visible in the theoretical underpinnings of VET teacher training programmes. Yet this is done differently across the countries. In Ireland, Lithuania, the Netherlands and Portugal the learning outcomes approach is presented explicitly, through general courses on how to apply learning outcomes. Such explicit embeddedness is quite rare.

Providers of training for VET teachers and trainers have relatively high autonomy in deciding on the contents of training programmes they offer. While many use this autonomy to introduce the learning outcomes approach to current and future VET teachers and trainers, this mainly results from the initiative of the providers themselves. None of the 10 countries studied mandate specific pedagogical theories or approaches for initial or continuous training of VET practitioners. Only 1 in 10 countries (Malta) advises providers of training on how to present learning outcomes to current and future VET teachers and trainers. This signifies lack of explicit encouragement for providers of training for VET teachers and trainers to introduce them to the learning outcomes approach.

Survey results illustrate that over 75% of surveyed VET teachers and trainers had been introduced to some aspects of the learning outcomes approach during their training. Yet half of survey respondents feel ready to work with a curriculum based on learning outcomes, with a smaller percentage feeling not ready. This indicates that the training received is likely insufficient. Over two-thirds of surveyed VET teachers and trainers claim that introducing learning outcomes in their country has had an influence on their practice, but criticism has been expressed related to the definition and implementation of the approach.

Different factors that might hinder the use of learning outcomes in VET are observed. These concern competing perspectives on learning outcomes in theory; lack of explicit guidance for the providers of training for VET teachers and trainers on how to present learning outcomes to future VET practitioners; dissatisfaction with inappropriate or ineffective definition and use of learning outcomes in VET, e.g. perception of learning outcome statements in reference documents as being too vague or too prescriptive. In contrast, positive views towards learning outcomes, perception of their multiple benefits for both learners and teachers as

well as their potential to increase the relevance and quality of VET programmes and improve learner-centredness may act as enablers.

These factors will be further explored in forthcoming strands of the study which will delve into the influence of learning outcomes on teaching, learning and assessment in schools and apprenticeships, in the context of initial VET.

Glossary

Term	Definition
Achieved learning outcomes	Outcomes that an individual learner demonstrates at the end of a learning process. This is determined as part of student assessment.
Continuous training of VET teachers and trainers	Continuing professional development (CPD) of VET teachers and trainers, i.e. in-service training that VET teachers and trainers undertake after they complete their initial education and receive a qualification in teaching. CPD can take different forms, ranging from formal activities such as attending conferences, internships, courses, seminars, and webinars to more informal modes such as talking to colleagues, peer observation, reading professional literature, or watching educational videos (Abakah, 2023).
Explicit use of learning outcomes	VET practitioners use learning outcome descriptors established in reference documents (e.g. standards, curricula), and do so intentionally and systematically. They employ such descriptors as they plan teaching and learning, prepare for lessons, choose relevant teaching and learning approaches and methods as well as decide on assessment tasks and criteria. Various principles associated with the use of learning outcomes in VET (see Table 6) are understood as such and are applied by VET practitioners.
Implicit use of learning outcomes	VET practitioners use learning outcome descriptors established in reference documents (e.g. standards, curricula) but do so unintentionally and sporadically, or not at all if learning outcome descriptors at national/regional level simply do not exist. Principles associated with learning outcomes (see Table 6) are implemented in VET, but neither policy documents, nor VET practitioners associate these with the use of learning outcomes.
Initial training of VET teachers and trainers	Initial professional preparation of VET teachers and trainers, i.e. pre-service courses that future VET teachers and trainers undertake. According to Cedefop (2022b), such training typically takes place at tertiary level in Europe, as part of bachelor and/or master studies, often leading to a dual – subject-specific and teaching – qualification.
Intended learning outcomes	Written statements and expressions of intentions/desired targets of learning. They describe what learners are 'expected to know and be able to do and understand having completed a learning sequence, a module, a programme or a qualification' (Cedefop, 2022a, p. 18). Such statements are used in qualifications frameworks, qualification standards and curricula.
Learning outcomes	'Statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence' (European Parliament &and Council, 2008)

Term	Definition
Providers of training for VET teachers and trainers	Higher education institutions, teacher training institutes, in-service training institutions, national centres or agencies specialising in VET, non-State providers of adult education, VET schools, municipalities, companies and teacher unions, which offer initial and/or continuous training opportunities for VET teachers and trainers.
Realised learning outcomes	Outcomes (skills, competences) that an individual learner applies in the labour market, having completed the training.
VET teachers	Those who teach general or vocational, practical or theoretical subjects within VET programmes in schools. Annex 2 provides a detailed overview of the types of VET teaching and training professionals in 10 countries studied in depth.
VET trainers	Mentors, tutors, and instructors that work with VET students (e.g. interns, apprentices) in workplaces. Annex 2 provides a detailed overview of the types of VET teaching and training professionals in 10 countries studied in depth.

Acronyms

CPD	continuous professional development
CVET	continuing vocational education and training
ECTS	European Credit Transfer and Accumulation System
EQF	European Qualifications Framework
EU	European Union
ICT	information and communications technology
ISCED	International Standard Classification of Education
IVET	initial vocational education and training
NGO	non-governmental organisation
NQF	national qualifications framework
RDI	research, development, and innovation
UAS	universities of applied sciences
VET	vocational education and training

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Annex 1.
The three perspectives: macro, meso and micro

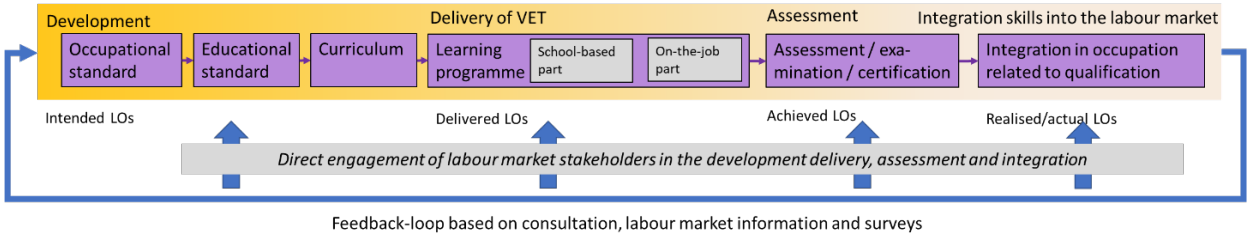
Perspective 1: making intended and achieved learning outcomes visible

1.1. Logical steps from intentions to achievements

Earlier Cedefop studies (2021) highlight that learning outcomes may serve as 'vehicles' for continuous dialogue between the world of education and the world of work, involving different stages that are not necessarily linear. These include development or renewal of standards (occupational standards, qualification standards) and curricula, i.e. defining intended learning outcomes; delivery of VET (school-based, work-based, and combined programmes), i.e. using learning outcomes; assessment/examination/certification, i.e. determining achieved learning outcomes; and integration into the labour market/insertion in the occupation related to the qualification. In this model, intentions of VET qualifications 'travel' from standards and curricula, through delivery and assessment to the labour market, where achieved and realised outcomes can be compared to the initial intentions. This model is an idealised one; for example, the ability to apply learning outcomes in different contexts is not quite linear.

The figure below provides an overview of how intended learning outcomes 'travel' to delivered learning outcomes, assessed learning outcomes (achievements) and realised learning outcomes. It also illustrates how learning outcomes approaches facilitate the engagement of labour market stakeholders in closing the feedback loop already along the pathway towards achieving learning outcomes. This model is a revised presentation of the models featured in previous Cedefop studies (Auzinger, Broek & Luomi-Messerer, 2017; Cedefop, unpublished). The sequence of steps in the feedback loop is also largely in line with ideas concerning dimensions of studying curriculum and curriculum design. One dimension, proposed by Adamson and Morris (2007), indicates that the curriculum can be seen as a product of a social and cultural context (ideological dimension). A second dimension relates to the planned or intended curriculum. A third dimension concerns the implemented or enacted curriculum. A fourth relates to the experiences of the learner (see also Frommberger & Krichewsky, 2012).

Figure 11. **An idealised model of the transformative journey of learning outcomes in developing and renewing qualifications**



Source: Adapted by authors, based on Cedefop, 2021.

In the above, intended learning outcomes are understood as written statements and expressions of intentions/desired targets of learning. These statements are usually expected to reflect the balance between labour market intentions (responding to specific competence needs), civic intentions (responding to specific societal competence needs) and educational intentions (responding to competences required for further learning). They describe what learners are 'expected to know and be able to do and understand having completed a learning sequence, a module, a programme or a qualification' (Cedefop, 2022a, p. 18). Such statements are used in qualifications frameworks, qualification standards and curricula. They reflect current philosophical, pedagogical, and sociological theories and ideas about aspects such as competences, skills, human development, linkages between education and the labour market, and the role of VET in general.

Developing statements of intended learning outcomes does not necessarily mean that they will directly lead to achieved learning outcomes. Learning outcomes in key reference documents ([25]) and their delivery through teaching in school- and work-based environments matter. This includes teaching and learning approaches and methods adopted by VET teachers and trainers, and the way they help achieve intended learning outcomes as defined in the reference documents.

Achieved learning outcomes are those that an individual learner demonstrates at the end of a learning process. This is determined as part of student assessment. Learners take the achieved learning outcomes 'with them as they enter the labour market and develop themselves through their work and in lifelong learning'. One step further is to examine 'realised or actual learning outcomes', i.e. how graduates put what they have learned into practice, and how this is perceived by the learners themselves and their employers. This concerns whether recent graduates can actually apply the skills and competences that were promised in their qualifications (Cedefop, 2021, p. 10). While looking at realised learning outcomes is not part of

([25]) These may be standards underpinning qualifications (e.g. occupational, education, qualification standards) and/or VET programmes/curricula.

this study, it is still important to consider this perspective in terms of how, via the labour market, learning outcome-related feedback loops can be closed. A question worth asking is whether VET system intentions are transmitted effectively to the labour market. It is also important to consider whether labour market demands are effectively used in informing the intentions of VET systems.

There is no linear or self-evident process between developing statements of intended learning outcomes and seeing these intentions being translated into achieved and realised learning outcomes. This process requires interventions at multiple governance levels, involvement of various institutions, translations into different tools, and interpretation by different individuals. At all stages of this process, intentions behind the written statements can get lost, resulting in different achieved learning outcomes (comparable with the children's game 'whisper'). The study hence tracks the extent to which outcome-based approaches are replacing input-based approaches in different dimensions and levels of the VET system. It explores whether traces of input-based elements remain visible within making transitions towards outcomes-based approaches. This helps to disentangle, map and analyse the relationships between the various dimensions that influence the transformation of intentions into achievements.

The model described presents a wider pattern of interaction between learning outcomes at different stages of the VET delivery model (i.e. the teaching and learning approach). This wider model emphasises that the intentions and achievements of VET systems, and how learning outcomes are used to express those, go beyond the purely educational design, application, and assessment process. It involves a prior step in terms of conceptualisation of how learning outcomes are used in a VET system and a follow-up step on whether graduates can perform the learning outcomes as intended in the labour market.

The study focuses on only a part of this wider model, namely on the relationships between the intended, delivered and achieved learning outcomes, leaving aside the realised learning outcomes experienced by graduates and employers in practice, as well as the final steps of closing the feedback loop (Cedefop, 2022c, p. 94). This narrower approach is in line with other theoretical frameworks developed by, for instance, Renold et. al. (2015) and Biggs (2003). The 'curriculum value chain', as developed by Renold and colleagues, links designing, applying, and monitoring educational processes in VET (Renold et. al., 2015). Biggs (2003) developed the concept of 'constructive alignment' that distinguishes between stages: defining intended learning outcomes; choosing teaching/learning activities likely to lead to intended learning outcomes; assessing students' actual learning outcomes to see how well they match what was intended; and arriving at a final grade.

Two approaches may be taken to 'intended learning outcomes' and 'achieved learning outcomes'. First, the process of intended-achieved learning outcomes refers to how the described learning outcomes inform the delivery of VET and are in the end achieved by the learners. Second, the intended-achieved process refers to how learning outcomes express the intentions of the VET system and how the VET systems deliver on these intentions in the end. This study explores both. It looks at whether learning outcomes statements are used in qualification descriptions, curricula/programmes, textbooks, delivery and assessment. It also explores whether the delivery and assessment practices in the end are organised in line with the intentions of the VET system and in reference to the underpinning theories and policies.

1.2. Use of learning outcomes in practice

Learning outcomes are defined in the Recommendation of the European Parliament and the Council on the establishment of the European Qualifications Framework for lifelong learning as 'statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence' (European Parliament & Council of the European Union, 2008). Yet approaches to education and training based on learning outcomes encompass much more than this and imply a wide range of changes across VET. These concern governance arrangements designed to ensure learning outcomes reflect labour market needs, stronger engagement with relevant stakeholders, stronger autonomy of schools to determine how learning outcomes should be implemented to meet local needs better, as well as pedagogies and assessment methods that enable greater consideration of diverse needs of individual learners.

Learning outcomes approaches are closely linked with more learner-centred and demand-driven approaches to VET (Cedefop, 2010; Frommberger & Krichewsky, 2012). Based on the review of the literature on demand-supply driven curricula (Adamson and Morris, 2007), input-outcome oriented curricula (Sloane and Dilger, 2005), and learner-teacher centred curricula (Frommberger & Krichewsky, 2012), the following overview table was developed.

Table 10. **Signals of the use of learning outcomes approaches in VET**

Dimension	Implications of using a learning outcomes approach
Governance of VET and stakeholder involvement in developing qualifications	Increased involvement of labour market stakeholders in the governance of VET as they are becoming a more important player in defining learning outcomes of VET qualifications and programmes and providing input into the description of learning outcomes with respect to demands from the labour market (Cedefop, 2010). Learning outcomes are seen as a language to bring together labour market stakeholders and education stakeholders to discuss the content and intentions of VET programmes (Stanley, 2015), and, subsequently, close the feedback loop between education and training, and the labour market.
Place of learning	More flexible arrangements concerning the place of learning, and more involvement of the workplace in VET programme delivery (Frommberger & Krichewsky, 2012). This is because learning outcomes approaches emphasise the independence of outcomes from the pathway of achieving them, hence opening more opportunities for flexible delivery and involvement of different learning venues (including workplaces, online and hybrid forms of learning).
Role of a teacher and trainer (and other staff)	Teachers are becoming facilitators of active learning rather than instructors of learning (Frommberger & Krichewsky, 2012). Such approach 'recognises that much learning takes place outside the classroom and without a teacher present' (Adam, 2006) and that the role of a teacher is 'to create a learning environment that supports the learning activities appropriate to achieving the desired learning outcomes' (Cedefop, 2022a). Teachers also have greater autonomy in their decisions around teaching and learning (Cedefop, 2010). For instance, while intended outcomes described in qualification standards and curricula may be relatively specific, teachers may be able to add, remove or adjust learning outcomes during delivery to respond to immediate needs of their students (University of Toronto, n.d.). They are also allowed flexible delivery, able to choose from a range of teaching methods and assessment approaches (Cedefop, 2022a). All this impacts teacher training (pre-, and in-service) to train teachers and trainers to be more autonomous and act as facilitators. Furthermore, teachers need to learn how to cooperate with other teachers and trainers to take forward planning using learning outcomes (NCCA, 2019b).
Role of a learner	The approach is learner-centred and encourages self-directed, autonomous learning (Cedefop, 2022a). This means that the learner is put at the centre of the learning process and treated 'as an active constructor of knowledge and not just a passive receiver, who not only 'assimilates' but also 'accommodates' knowledge, skills and competences based on previous experiences, mental structures and beliefs' (Cedefop, 2016b). The learner is also encouraged to take a more active role in the planning of learning, take control of their own learning process and monitor their progress (Adam, 2006).
Curriculum integration and content of VET	Not subjects or disciplines are the guiding principle in structuring VET programmes, but learning outcomes, opening opportunities to combine courses and bringing together theory and practice (e.g. foreign language learning in the occupational context of the VET programme). VET programmes focus more on skills and competences compared to knowledge (Frommberger & Krichewsky, 2012) and have greater integration of generic and job-specific skills (Cedefop, 2012).
Learning modality	Teaching and instruction methods are not predefined but chosen based on intended learning outcomes (Cedefop, 2022a). Nevertheless, given the greater focus on skills and competences (rather than knowledge), and on mixing theory and practice, there is more focus on experiential learning and active learning (as opposed to instruction) (Frommberger and Krichewsky, 2012). This means that inquiry-based methods such as project-based learning, problem-based learning and technology-enhanced immersive and interactive learning experiences are encouraged, so are active learning approaches, for instance asking more questions, doing more group/project work, peer learning.

Dimension	Implications of using a learning outcomes approach
Structure of VET curriculum/ programme	More modular approaches in the structure of VET programmes, with more flexibility in how modules can be combined, and assessment of prior learning (Cedefop, 2010).
Role of assessment	The key role of assessment is to determine to what extent the intended learning outcomes have been achieved. Using a learning outcomes approach allows collecting evidence for comparing intended learning outcomes with the performance of a learner. Assessment criteria provide a reference point for this judgement (learning outcomes approaches also imply greater use of criterion-referenced rather than norm-referenced measures). Assessment results allow judgements on an individual's progress and achievement of learning goals. Thus, formative and summative assessment forms can be better combined (Frommberger & Krichewsky, 2012) and learner's self-assessment is encouraged. As the intended learning outcomes are often more comprehensive and include transversal skills and competences, assessment is also carried out more comprehensively, measuring different types of learning outcomes. Therefore, skills demonstrations in the work context or other forms of practice-based assessment methods such as work assignments, portfolios or learning diaries are increasingly used.
Inclusion	The flexible nature of learning outcomes allows to open up VET for non-traditional learner groups (e.g. older learners), break through gender patterns in VET enrolment, and, in general, respond to diverse needs of learners (NCCA, 2019b). This can be linked with the modularisation of programmes, less standardised learning modalities, mixing theory and practice, individualised learning plans, differentiated teaching approaches, personalised learning activities, and flexible pacing.
Wellbeing of learners	There is more transparency on what is requested from learners and reduced stress among learners as the learning process is better attuned to their specific situation (Mahajan & Singh, 2017).
Matching demand and supply	VET programmes make learners better equipped for the labour market and respond to employers and learners needs by closing feedback loops (Cedefop, 2021).

Source: Authors.

This table indicates the dimensions that signal the use of learning outcomes approaches in VET. Such operationalisation goes beyond observations that texts are changed in policy documents, textbooks, and qualification descriptions (linked to intentions). It tries to identify changes in the delivery of VET programmes, assessment approaches and learning achievements, i.e. what is learned, how it is learned, where it is learned, who supports learning, and what is the result of learning supported by the learning outcomes approach.

Examples of both explicit and implicit use of learning outcomes in VET can be seen from different dimensions (details can be found in Annex 1). Learning outcome descriptors established in reference documents (e.g. standards, curricula) may be used explicitly. They may inform VET delivery, including planning, preparation for lessons, choice of teaching and learning approaches and methods, as well as assessment tasks and criteria. Yet this may not always apply, and, in some cases, learning outcomes approaches may be implicit. Principles associated with learning outcomes may be implemented in VET, but neither policy

documents, nor VET teachers nor trainers may associate these with the use of learning outcomes. Throughout the study, such explicit versus implicit use of learning outcomes approaches is differentiated and helps to enrich the discussion on whether the shift towards learning outcomes has become a reality. Yet conclusions on the implicit use of learning outcomes approaches must be treated with caution. Signals observed may have little to do with the use of learning outcomes, and result from other factors.

Perspective 2: levels of implementation of the learning outcomes approach

The shift to learning outcomes implies a wide range of changes across entire VET systems, including policy, delivery, and assessment. To grasp the full scale of these changes, a distinction can be made between three levels: macro, meso and micro.

(a) Micro-level factors: these concern the actual application of learning outcomes in practice. For instance, is the assessment really based on learning outcomes? Do teachers really have learning outcomes in mind when developing and delivering their lessons? Are learners aware of the intentions set in the learning outcomes statements? This level can also be referred to as the level of the enacted/experienced curriculum, manifesting itself through teacher and student action (e.g. use of time and resources); roles of teachers and students; student interest and involvement; classroom interaction (e.g. questioning patterns; use of group work); school interaction; student output and change in student attitude and/or behaviour; change in teacher attitude and/or behaviour; student cognitive processes (Adamson & Morris, 2007; Frommberger & Krichewsky, 2012). At the micro level, a sub-distinction can be made between:
    (i) school and the workplace: this relates to general principles of how learning outcomes are supposed to be used;
    (ii) interaction between a learner and a facilitator: this relates to how learning outcomes are used in the actual delivery of learning and teaching, both in schools and workplaces;

(b) Meso-level factors: these comprise factors that influence or determine institutional practices (i.e. delivery of VET programmes in schools and workplaces). They concern the existence of didactical and pedagogical tools and procedures that refer to applying learning outcomes; they can also relate to whether staff involved in the delivery of VET or assessment are trained to use learning outcomes. They touch upon the discussion between VET

providers and employers over such issues as work-based learning, particularly what shall be the contents of learning and what skills and competences students shall acquire in the workplace. Meso-level factors concern the interaction between VET stakeholders at regional and/or local level to match skills demand and supply: these include VET providers and companies delivering VET, municipalities, trade unions, and chambers of commerce. The meso level can also be referred to as the level of the planned/intended curriculum, manifesting itself through strategies and plans; syllabuses; prospectuses; teaching materials; schemes of work; lesson plans; assessment materials; minutes of meetings; notices (Adamson & Morris, 2007; Frommberger & Krichewsky, 2012). At the meso level, a sub-distinction can be made between:

(i) local level infrastructure used for VET delivery. This relates to the network of companies involved, as well as interaction between schools and teacher training institutions on the pedagogical models applied;
(ii) local level governance of VET delivery. This relates to the exchange between stakeholders to match labour supply and demand;

(c) Macro-level factors: these concern factors that set out national/regional/sector-wide rules and regulations and create conditions in which learning outcomes can be applied and used in general. These can include general guidelines on how to use learning outcomes in describing qualifications; the extent of autonomy VET providers have in deciding on how they deliver the learning outcomes (didactical approach, pedagogical methods); regulations on how learning outcomes must be applied in assessment; regulations related to teacher education and to what extent and how learning outcomes are addressed there. Besides these more static factors potentially impacting the use of learning outcomes, there are also more dynamic ones concerning, for instance, how learning outcomes are used in policy debates, facilitating discussions between different groups of stakeholders (the worlds of education and world of work). This level can also be referred to as the level of ideology, manifesting itself through books; academic papers; policy documents (Adamson & Morris, 2007; Frommberger & Krichewsky, 2012). A further sub-distinction can be made between two levels:

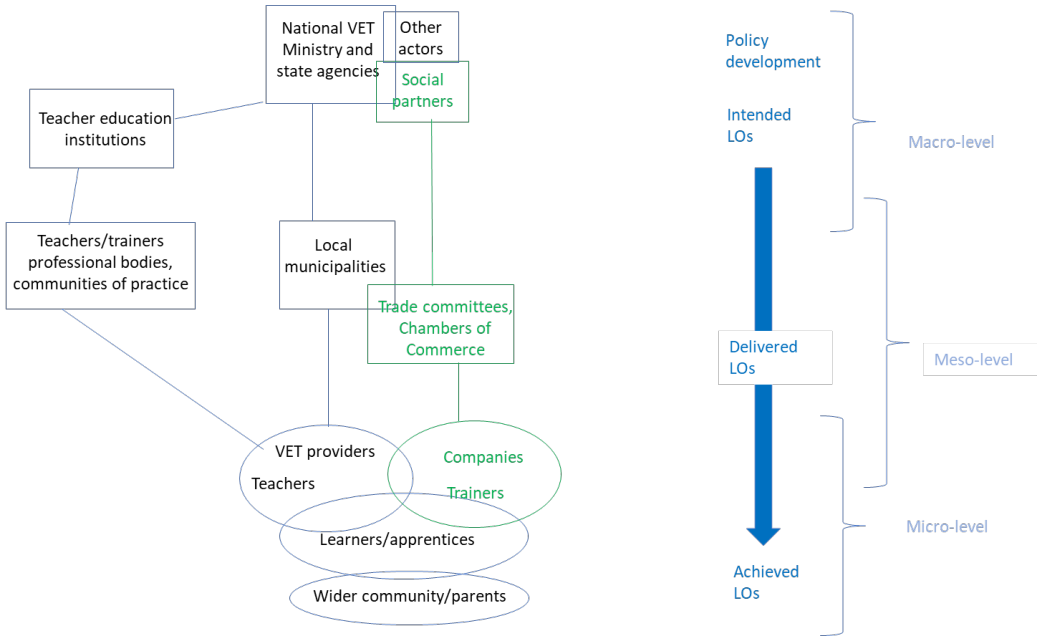
(i) national level application of guidelines and policies for determining learning outcomes in specific sectors;
(ii) national level policies that enforce the application of learning outcomes approaches.

Perspective 3: stakeholder relationships and change processes

3.1. The nature of relationships between stakeholders

Policy and implementation processes related to learning outcomes approaches can be characterised as follows. Typically, at national level, broad policies are developed and set out the broad parameters for learning outcomes approaches. These policies are then implemented through programmes and qualifications, including the processes of designing occupational and/or educational standards and curricula which express the intended learning outcomes. Delivery of programmes (and learning outcomes) takes place at local level through schools, training companies and teachers and in-company trainers. Depending on the country, local municipalities, trade unions and chambers of commerce may also have a role. Assessment processes complete the learning outcomes 'chain', which involves teachers and VET providers but possibly also companies through in-company trainers or through local trade unions (as in Denmark) or chambers of commerce (as in Germany). Figure 12 provides a schematic map of the actors involved, and sketches some of their connections.

Figure 12. **Stakeholders involved in implementing learning outcomes approaches**



Source: Authors.

However, in some ways, this is an oversimplification of the reality. Wider literature on policy-making and policy implementation in education shows that the

reality is more complex than this 'top-down' model suggests. First, research shows that policy is seldom formulated at national level and then implemented down an administrative hierarchy without being transformed in some way. 'As programmes are altered by their environments and organisations are affected by their programmes, mutual adaptation changes both the context and content of what is implemented' (Pressman & Wildavsky, 1974, p. xvii). Education and training is a relational activity between teachers and learners that involves complex tasks for which rules, guidelines and instructions cannot deal with all eventualities; consequently there is much scope for teachers to adjust teaching and learning practice within national guidelines. Second, policy is an outcome of a constant bargaining process between different actors. This is particularly relevant to the processes involved in developing overall approaches to VET based on learning outcomes (as distinct from the more routinised processes of occupational and educational standards development). From this point of view, each actor involved in implementation 'attempts to negotiate to maximise its own interests and priorities' leading to a constant modification of policies (Barrett & Fudge, 1981, p. 4). A further development of this perspective is to see policy as the outcome of 'policy networks', which are 'sets of formal institutional and informal linkages between governmental and other actors, structured around shared if endlessly negotiated beliefs and interests in public policy-making and policy implementation. These actors are interdependent and policy emerges from the interactions between them (Rhodes & Marsh, 1992). Policy networks exist at various levels of government (e.g. national, sub-national, local) and they mediate and shape interest group interactions between governmental and nongovernmental actors (Rhodes & Marsh, 1992). Third, professional communities or networks may influence the practice of teachers and trainers and, in turn, how they use learning outcomes. For instance, teacher training institutions are likely to exert influence over teachers' approaches. Once qualified, teachers become part of wider communities and networks; such networks can play an important role in teacher learning and organisational change (Coburn, Mata & Choi, 2013), while also being shaped by the policies and practices of school leaders and local municipalities (Coburn and Russell, 2008). It has also been found that teacher networks can affect how far teaching reforms are sustained after the support for reform is withdrawn. Networks that combine strong ties, extensive interaction, and high expertise can enable teachers to adjust instruction to new conditions while maintaining the core pedagogical part of reform (Coburn et al., 2012).

These are useful perspectives to apply to VET which, by its nature, involves a range of actors beyond the world of education itself in the 'world of work'. Thelen's work on the evolution of VET systems gives centre stage to bargaining

within tripartite social partnership structures involving the state, and the interests of employers and workers (as in the work of Thelen (2004) discussed below). Such bargaining might influence the degree to which broad or more detailed learning outcomes are adopted as the 'norm' within a VET system. Educators might favour broader, more holistic learning outcomes that provide scope for more teacher autonomy. Employers might favour more granular learning outcomes that can reflect the detail of work processes. Policy outcomes may differ from policy intent: applying the 'street level bureaucrat' idea to the work-based learning component of VET might provide even greater scope for deviation. How policies are implemented in the workplace is likely to be considerably shaped by the company or sectoral or occupational practices and not simply educational imperatives.

3.2. The nature of change

Considering change in relation to learning outcomes and learner-centred pedagogies, it might be argued that the advent of learning outcomes constitutes something of a step change in VET. They either exist in qualifications or they do not, although the evolution of the curricula and the form of learning outcomes is possible. In contrast, pedagogies are likely to change more incrementally, since they must be incorporated into the mindsets of teachers and trainers and into their teaching, custom and practice, which takes time. 'Old' teaching methods might co-exist with 'new' methods for some time: this may be the case even where there is a strong national drive to adopt new teaching and learning approaches because of factors such as institutional inertia and lack of upskilling and reskilling opportunities for teachers ([26]). The possibility of different adoption rates of new pedagogies in workplaces compared to classrooms must also be considered. This is particularly true in view of – in many countries – lack of professional training and recognition for in-company trainers which might slow the application of learner-centred pedagogies in work-based learning. This will be further explored in the third strand of the study. In assessment, distinguishing between formative and summative assessment may be required: summative, and particularly external, assessment could also be a step change, whereas formative assessment processes might be more likely to change incrementally. This will be examined in more detail in the fourth strand of the study.

An important question around the nature of change concerns where learning outcomes and pedagogies/assessment interact. Does this represent a 'critical

([26]) An odd-sounding but nonetheless relevant analogy here is Christianity, which in many locations coexisted with other beliefs and religious practices for many years after it was adopted, despite inherent doctrinal contradictions and official teaching stating that it was the only true religion.

conjunction' of developments? Learning outcomes might have given (or be giving) a push to existing trends towards learner-centred teaching, like the effect of the COVID-19 pandemic on digitalisation of education. The sudden 'shock' acting as a tipping point pushes a system across a threshold into a new system 'state'. Where learner-centred methods have not been prominent, learning outcomes might constitute a 'disruptive event' from the pedagogical perspective.

Examining these issues is not just a matter of identifying trends but also of understanding causes. It might be assumed that the drivers of the adoption of learner-centred methods in education are long-standing and deep-rooted within the world of education, and key reasons for their adoption are the theoretical and practical benefits in terms of cognitive development ascribed to them. Their 'ownership' by the educational practice community means that, in countries with high levels of teacher autonomy, learner-centred methods may have been adopted bottom-up, without the need for any central government policy direction. Yet the possibility that such a trend might not have proceeded at the same pace or to the same extent in VET must also be considered. The role of in-company trainers who typically do not receive the same type or level of pedagogical training as teachers must be noted. Change processes might also differ between VET systems, depending on the closeness of their links to general education.

In contrast, the adoption of learning outcomes-based programmes and qualifications is likely of more recent origin than learner-centred methods, and the rationale is linked to the desire to link VET programmes more closely to skills needed in the workplace. Further, implementation of learning outcomes approaches in VET has been through the mechanism of nationally formulated policy. In contrast, for teaching methods, there may have been a stronger element of more 'organic' adoption from the classroom upwards. So another point of differentiation between learning outcomes-based programmes and learner-centred pedagogies might be that the former is characterised by more 'top-down' adoption processes whilst the latter is characterised by a strong element of 'bottom-up' adoption by individual teachers and schools.

Annex 2.
VET teachers and trainers, and their training in 10 countries studied

Table 11. **Types of VET teaching and training professionals in 10 countries studied**

Types of teaching and training professionals in VET	Alignment with definitions used in this study
Bulgaria	
Professionals in **school settings** are called teachers. These include general subject teachers and vocational subject teachers. The latter can be further differentiated into teachers delivering theoretical training, teachers delivering practical training, teachers of profession-related foreign language, and teachers-methodologists who facilitate communication and coordination between employers, instructors/mentors, and VET providers. Teachers-methodologists also support the planning and organisation of students' in-company training activities. Professionals in **workplace settings** are called instructors or mentors. These are company employees with a qualification and at least 3 years of work experience in a respective profession. They guide the practical training of students in companies.	Both definitions align with how VET teachers and trainers (instructors, mentors) are understood in this study.
Finland	
Professionals in **school settings** are called teachers. These include teachers of vocational subjects (field-specific studies) and teachers of common subjects (such as languages, mathematics, science, physical education and arts). Professionals in **workplace settings** include teachers/trainers appointed by VET providers who plan, monitor, and assess the learning of students; workplace instructors who guide and train students, and contribute to planning, monitoring, and assessing their learning; and workplace representatives who agree on apprenticeship contracts with VET providers on behalf of their companies.	The definition of teachers aligns with how VET teachers are understood in this study. VET trainers in Finland are understood more broadly; the focus of this study is on what in Finland would be understood as workplace instructors.
France	
Professionals in **school settings** are called teachers. Professionals involved in the delivery of **apprenticeships** comprise trainers and apprentice mentors. The former train apprentices in dedicated training centres (*centres de formation d'apprentis*). The latter work in companies and guide apprentices through work-based training in real workplace settings.	Both definitions broadly align with how VET teachers and trainers (mentors) are understood in this study.
Ireland	
Professionals in **school settings** involved in the delivery of further education and Post leaving certificate courses are called teachers. Professionals in **workplace settings**, i.e. apprenticeships, include workplace assessors and workplace tutors. Both are appointed by respective employers.	Both definitions align with how VET teachers and trainers (assessors, tutors) are understood in this study.

Lithuania	
Professionals in **school settings** are called teachers. VET teachers (*profesijos mokytojai*), though, refer exclusively to those who deliver theoretical and/or practical vocational subjects. General subject teachers work in VET schools as well, but legally they are not considered to be VET teachers as they deliver general education programmes. Professionals in **workplace settings** include masters of the profession (*profesijos meistrai*) appointed by the respective employers, and managers of practical training appointed by VET providers. The former oversee and coordinate the work and the practical training of apprentices. The latter are VET teachers in schools and supervise the apprentices on behalf of VET providers.	VET teachers in Lithuania are understood in a narrower sense than this study. The definition of VET trainers applied in this study aligns with how masters of the profession are understood in Lithuania.
Malta	
Professionals in **school settings** are called teachers (in compulsory VET) and lecturers/tutors (in post-compulsory, further and higher VET). These are supported (at all levels) by student support personnel, such as guidance teachers, career advisors, career guidance officers/teachers, counsellors, and student mentors/student support officers/learning coaches. In compulsory VET, though, it is (general education) teachers who deliver VET, therefore, there is no distinct type of VET teacher. The latter are associated with those who delivery vocational subjects. Professionals in **workplace settings** involved in internships and apprenticeships are generally called trainers. These are appointed by respective employers. These exist, though, only at post-compulsory level; as part of compulsory VET, teachers accompany and mentor their students through work placements.	Both definitions broadly align with how VET teachers and trainers are understood in this study.
Poland	
Professionals in **school settings** include general subject teachers; theoretical vocational subject teachers; practical vocational training teachers; teachers/pedagogues providing educational support to learners; teachers/psychologists providing psychological support to learners, teachers and parents; teachers/methodical advisers providing support to teachers; teachers/consultants who develop teaching materials, design and deliver in-service training courses for teachers and education managers, etc. Professionals in **workplace settings** include practical training instructors; practical training tutors; student internship tutors.	The definition of VET teachers in Poland is broader than this study; the latter focuses on vocational and general subject teachers. The definition of VET trainers (instructors, tutors) aligns with how these are understood in this study.
Portugal	
Professionals in **school settings** include teachers (responsible for the socio-cultural and scientific training components of VET courses), and trainers (responsible for short-term training units of the technological component of VET courses). The latter prepare and promote technological training, conduct in-class training in VET institutions, and provide limited support during workplace training, without serving as work-based learning tutors. Professionals in **workplace settings** are called tutors. These are company employees responsible for monitoring and guiding the students during the work-based learning component. The latter is supported by pedagogical coordinators responsible for communicating with trainees and establishing communication and interaction with entities hosting the work-based learning component.	The definition of VET teachers applied in this study aligns with how VET teachers and trainers are understood in Portugal. The definition of VET trainers applied in this study aligns with how VET tutors are understood in Portugal.

Slovenia	
Professionals in **school settings** include three types: teachers of general education subjects, teachers of professional theory in vocational modules, and teachers of practical lessons in vocational modules. Professionals in **workplace settings** are called in-company mentors. These are company employees.	Both definitions align with how VET teachers and trainers (mentors) are understood in this study.
Netherlands	
Professionals in **school settings** include teachers, teachers in training/under apprenticeship contract, and teaching assistants, i.e. classroom assistants, instructors. Instructors are employed by VET schools to support VET students in mastering specific skills in a school-based setting and work under the supervision of VET teachers. Professionals in **workplace settings** are typically called practical trainers (*praktijkopleider*) or masters (*leermeester*).	Both definitions align with how VET teachers and trainers (masters) are understood in this study.

Source: Authors, based on country research and Cedefop's (2022) series 'Teachers and trainers in a changing world'.

Table 12. **Qualification requirements for VET teachers and trainers in 10 countries studied**

VET teachers	VET trainers
Bulgaria	
VET teachers are required to have a bachelor, a vocational bachelor, or a master degree. General subject teachers in VET are also required to have a teacher qualification certificate. The only possibility to acquire the above is enrolment in pedagogical programmes delivered by higher education institutions.	Instructors or mentors are required to have a vocational qualification in the respective profession and at least 3 years of working experience in that profession. Also, they must have successfully completed the dedicated training provided by employers.
Finland	
VET teachers are required to have both pedagogical competences and subject matter knowledge in their own field. All VET teachers must have at least 3 years of work experience in a sector corresponding to the field in which they intend to teach. This experience must be evidenced before they are admitted to pedagogical studies. The latter (i.e. professional teacher education) are provided by the universities of applied sciences, schools of professional (vocational) teacher education.	There are no formal qualification requirements for workplace instructors in Finland. They often have a vocational or professional qualification but hold no pedagogical qualifications. It is the responsibility of VET providers to train workplace instructors so that they can contribute to the delivery of VET programmes in the form of apprenticeships.

France	
VET teachers must obtain a 2-year Teaching, education and training professions master degree (MEEF, *Métiers de l'Enseignement, de l'Éducation et de la Formation*). The programme has a common curriculum covering different aspects of teaching at primary and secondary (including VET) schools. Student teachers who wish to teach in VET secondary schools must participate in the programme's courses related to the professional training. The MEEF programme is delivered by the graduate schools of teaching and education (INSPE*, Institut national supérieur du professorat et de l'éducation*). Such graduate schools are linked to public universities, and have been responsible for preparing future primary and secondary school teachers through the master programme since 2010.	Trainers in dedicated apprentice training centres (*centres de formation d'apprentis*) are not required to have any official certification. Apprenticeship mentors, in contrast, must hold a professional qualification at a level at least equivalent to that of the apprentice, and in the same professional field, and have at least 1 year's experience in the relevant field; or justify 2 years of experience in the relevant field. Trainers and apprenticeship mentors are trained by professional networks, including the consular chambers, the Building and Public Works Apprenticeships Consultation and Coordination Committee, and the rural training centres, among others.
Ireland	
There was no official route for teachers in further education and training until 2016. Teachers in FET often had same qualifications as those required for teaching at primary and secondary levels. In 2016, Route 3 Further Education regulations introduced a new way of provision of training for teachers FET. Consequently, eight higher education institutions launched postgraduate and undergraduate programmes for teacher FET teachers.	There have never been any formal, legal requirements for workplace assessors and tutors to be trained in teaching. Yet some general Train the trainer courses exist. These are available as Quality and Qualifications Ireland awards at Levels 6-7 on the Irish register of qualifications. Programmes leading to these awards are offered by both public and private providers, in a mix of face-to-face, blended and online only formats.
Lithuania	
There are three pathways to becoming a VET teacher: a) obtaining a qualification of a pedagogue, which can be done by enrolling into first level university studies in the field of pedagogy, studying a module on pedagogy alongside first level university studies in a different field, or taking up professional pedagogy studies; b) having a higher education degree and within a year of starting to work as a VET teacher taking a course on pedagogical and psychological knowledge; (c) having a vocational qualification and at least 3 years of experience in the relevant field, and attending a course on pedagogical and psychological knowledge. Study programmes that lead to a pedagogue qualification are offered by higher education institutions. A course on pedagogical and psychological knowledge is offered by a number of different public and private providers (including universities, NGOs).	Masters of profession (VET trainers in companies) are not subject to any specific qualification requirements. Thus, no specific route of initial professional preparation for them exists.

Malta	
In compulsory VET, the qualification required for entry into the teaching profession is master in Teaching and learning, master in Education, or (since 2021) a master in Vocational education applied research 4.0. Initial teacher training is provided by the Faculty of Education of the University of Malta, the Institute for Education, and Malta College of Arts, Science & Technology. In post-compulsory VET, two main VET providers – Malta College of Arts, Science and Technology (MCAST) and Institute of Tourism Studies (ITS) – have different requirements for staff recruitment. At MCAST, all lecturing staff is recruited based on their qualifications and years of experience, in accordance with the guidelines listed in the MCAST-Malta Union of Teachers (MUT) Collective Agreement 2017-22. MCAST provides teacher training programmes for its entire lecturing staff. At ITS, lecturers need to be at least one EQF\MQF level higher than the level that they lecture and/or same level with 10 years' experience. All full-time staff must possess pedagogical skills through an accredited course in pedagogy.	There are no dedicated training programmes for VET trainers (in companies), but the offer of these is envisaged for the future.
Poland	
Qualification requirements differ by the type of VET teacher. General subject teachers must have at least a master degree, whereas theoretical vocational subject teachers are required to have at least a master or bachelor degree, including in both cases pedagogical training. Practical vocational training teachers are required to have the same qualifications as required for teachers of vocational theoretical subjects, or the title of a master in a craft, or a pedagogical technical college diploma or upper secondary school completion examinations (*matura*) diploma together with a vocational qualification certificate and 2 years of work experience. They must also have a pedagogical qualification. There are no specific initial training programmes that prepare teachers of general or theoretical vocational subjects to teach in VET schools/centres. Those who want to become VET teachers receive training at universities. Some students can choose a teaching specialisation alongside their main degree, but most vocational teachers follow a consecutive training model. After getting a degree in their specific subject, they work outside of the education sector and then enrol in special teaching programmes at universities to get pedagogical qualifications to work at VET schools.	Instructors and tutors are obliged to fulfil certain requirements, which concern pedagogical qualifications, education level, professional qualifications, and professional experience in the occupation the trainer will teach. The detailed specification of the requirements of training professionals in companies is provided in Cedefop's country report *Teachers and trainers in a changing world* on Poland, p.10-11.

Portugal	
Trainers in schools must have scientific and technical expertise to provide education and training in the field(s) in which they are trainers, and they must have a pedagogical competences certificate. This certificate can be obtained by completing initial pedagogical training for trainers; recognition, validation and certification of pedagogical competences as trainers, obtained through professional experience; recognition of a higher-education diploma or qualification, which proves the development of pedagogical competences as mentioned in the trainer's profile. In the first two cases, the training and recognition can be obtained from any private or public certified training provider with the authorisation of *Instituto do Emprego e Formação Profissional* (IEFP), while in the third case, the recognition needs to be done directly by IEFP. There are no specific initial training programmes to prepare VET teachers. Initial teacher education is comprehensive and aims to prepare teachers for both general and vocational routes.	Tutors in companies are not required by legislation to have any specific qualification or undergo any specific training.
Slovenia	
Teachers of general education subjects must possess a university degree or second cycle degree (ISCED 767, ISCED 766), must have had pedagogical/andragogical training, and must have passed the State professional exam. Teachers of theoretical subjects in VET must possess at least first cycle degree (ISCED 645, ISCED 655), pedagogical/andragogical training and have passed the State professional exam; teachers of practical training in VET must possess at least technical upper secondary education (ISCED 354), pedagogical/andragogical training, have passed the State professional exam, and have at least 3 years of relevant work experience from the economic sector. Work experience is a condition for teachers of practical lessons, but not for the others. Initial training for VET teachers is provided exclusively by higher education institutions.	To become a mentor in a company, a person is required to pass a master craftsman exam. The exam can be taken by anyone who has obtained an upper secondary vocational qualification in any field and has at least 3 years of experience in the relevant field or has obtained a professional qualification and has 2 years of experience or has a higher professional qualification and at least 1 year of experience in the relevant field. Mentors in companies must also undergo a 32-hour training programme, which prepares them for work with VET students.
Netherlands	
VET teachers must be professionally, didactically, and pedagogically competent. There are two routes to demonstrate those competences. The first route is to obtain a second- or first-degree teaching qualification. This can be done at a university of applied sciences (teacher training institute). A person can specialise in a school subject or professional (VET) profile. The second route is obtaining a pedagogic-didactic certificate. In this route, pedagogic and didactic competences are developed while teaching (and following additional training). The certificate is issued at bachelor level. Obtaining this certificate is possible at several universities of applied sciences and private providers.	Companies have to assign trainers who have profound knowledge of the occupation and are able to support and advise VET students. Many sector-based organisations offer courses for trainers in companies, but there are no formal qualification requirements for trainers, unless agreed in a sector's collective labour agreement.

Source: Authors, based on country case studies prepared for this research and Cedefop's (2022) series *Teachers and trainers in a changing world*.

Table 13. **CPD arrangements for VET teachers and trainers in 10 studied countries**

VET teachers	VET trainers
Bulgaria	
VET teachers are required to improve their skills, participating in approved qualification programmes (not less than 48 academic hours every 4 years, the period of appraisal for pedagogical specialists), or internally at school (not less than 16 academic hours per year). CPD opportunities are provided by higher education institutions, scientific organisations and training organisations according to previously approved curricula. The Ministry of Education and Science has developed and maintains an information register of approved teacher qualification programmes.	Mentors are required to improve their pedagogical and methodological knowledge, skills and competences. In 2019, a special programme was adopted at the national level, aimed at offering basic pedagogical and psychological knowledge and skills to mentors. More specifically, the programme aims to develop mentors' social, organisational, methodological and leadership skills and competences for applying flexible and individual approaches to training. The institutions authorised to provide this programme for mentors include universities, VET schools, vocational training centres and vocational colleges.
Finland	
There is no specific legislation steering VET teacher CPD. However, based on the collective agreements, VET teachers have to participate in CPD from 3 to 5 days a year. VET providers and teachers themselves have a joint responsibility for the CPD, whereby primary responsibility for CPD lies with the VET providers. Provision of CPD is realised in various ways, e.g. different education organisations offer courses and other training interventions to VET teachers to which they can apply to participate without costs, or tailored courses are directly offered to VET providers and various online courses are made available.	VET providers are responsible for CPD of VET trainers/instructors. Forms and methods of how the training for workplace trainers/instructors are implemented vary from one provider to another. Short courses, in-company training and web-based training programmes are common forms. Also, there are some websites such as Ohjaan.fi which provide study courses and supporting materials to be used by the workplace trainers/instructors.
France	
There is no mandatory CPD for VET teachers at the national level. Teachers can access training voluntarily or as directed by their supervisors. Every year the Ministry of Education prepares a National training plan, which is to be followed at the regional level by the *académies* (regional education authorities). Such plans are developed according to the needs and staff requirements from the *académie*, while reflecting the national training priorities. Many VET teachers participate in training offered by universities, associations, and other external organisations.	VET trainer (i.e. employees of the apprentice training centres) access continuing training as part of the 'skills development plan' established by their employer.
Ireland	
There is no requirement for mandatory FET teacher engagement in CPD. However, some FET providers require their staff to do a certain number of hours of professional development every year. A survey in 2015 showed that most FET staff engage in some form of professional development every 2 years.	There are no formal regulations of or requirements for CPD of FET trainers.

Lithuania	
CPD for VET teachers is mandatory. According to the Law on Education, a teacher is entitled to participate in CPD at least 5 days a year. At least once every 4 years, teaching staff must improve their qualifications in developing learners' social and emotional competences. The Ministry of Education approves CPD regulations and priority areas. Teacher training centres and accredited institutions offer CPD, focusing on different competences based on teachers' needs and schools' priorities. Different modes of CPD organisation are observed, ranging from 1-2 days of training to longer training or series of training events distributed over longer period. CPD courses are increasingly organised online or in blended learning mode. Teachers assess their skills yearly and set development goals.	There are no specific rules governing the CPD for VET trainers compared to regular teaching staff. CPD for VET trainers depends on procedures set by the enterprises themselves. VET institutions offer advice on enhancing pedagogical skills, but there is no widespread analysis of training needs. CPD programmes for VET trainers are prepared and proposed by the Qualifications and VET Development Centre, the Lithuanian Confederation of Employers, the Chamber of Commerce, Industry and Crafts, and VET institutions. Programmes mainly focus on familiarising professionals with VET systems, policies, and curriculum, along with improving pedagogical skills. Training initiatives are typically funded through international projects supported by European Union funds.
Malta	
In compulsory VET, the sectoral agreement sets the framework for CPD. CPD includes various learning opportunities and establishes a Community of Professional Educators. Teachers are required to attend management-led Community sessions, covering school development planning and CPD. They can also engage in self-directed CPD. In post-compulsory VET, the collective agreement between the education institution and the Malta Union of Teachers regulates and defines CPD for academic staff. Staff development organised by the Malta College of Arts, Science & Technology includes participation in continuous professional development programmes and in-service training. These are optional and voluntary, but at times they are required for career progression. Compulsory CPD programmes are provided to address pedagogical topics related to VET.	Malta College of Arts, Science & Technology does not yet provide training to trainers in companies, but this is envisaged for the future.
Poland	
VET teachers have both the right and obligation to participate in CPD. School directors are responsible for assessing teacher CPD needs and preparing professional development plans for them at school level. Schools also have internal professional development systems, including self-development meetings, observations, and study visits. CPD opportunities are provided by various public and private institutions at national, regional, and local levels. These create CPD programmes, prepare educational materials, and set priorities for teacher development. For example, the Centre for Education Development is a national institution providing training for both general education and VET teachers. Higher education institutions also offer continuous training for teachers. Additionally, there are open-access educational resources and CPD opportunities funded by the ESF.	Instructors and tutors in companies are offered a broad range of thematic training to improve their vocational and pedagogical skills. The training is provided by practical training institutions. The most common training refers to the methodology of vocational education and the use of standards for examination requirements.

Portugal	
There are two key types of CPD offers for VET trainers in schools: continuous pedagogical training and continuous technical training. Neither are mandatory in general, although, the latter can be mandatory in some business sectors due to their specificity, high-standard requirements or safety and security procedures.	CPD initiatives are not mandatory for tutors in companies, but the Institute of Employment and Vocational Training has been providing training for them since 2004. It offers two training programmes, each comprising four 10-hour modules, focusing on tutor functions, pedagogy, motivation, and conflict management. The approach emphasises setting the expectations and sharing information rather than formal certification.
Slovenia	
CPD for VET teachers is both a right and a duty. Teachers can attend up to 5 days of in-service training per year or 15 days over 3 years. They can choose CPD opportunities on their own or with school management, based on school priorities. The Ministry of Education maintains a catalogue of CPD programmes, and shares financing of selected training. There are various types of programmes, including formal education, career development, project-based programmes, and thematic conferences.	Employer organisations and education institutions organise training sessions for mentors, addressing topics such as exam preparation, effective communication, and apprenticeship planning. These sessions help ensure mentors are well prepared for their role in guiding VET students during their practical training in a company.
Netherlands	
VET schools are autonomous in defining and arranging VET teacher CPD. This includes defining the training needs, prioritising the competences to be updated, and choosing provision modes (formal, non-formal, informal). There are no formal criteria that CPD providers must meet, hence these vary; they include public and private bodies.	There are no specific CPD provisions for trainers.

Source: Authors, based on country research and Cedefop's (2022) series *Teachers and trainers in a changing world*.

The influence of learning outcomes on pedagogical theory and tools

This publication explores how the learning outcomes approach is addressed in mainstream pedagogical theories and presented to VET teachers and trainers in selected countries. It builds on 10 in-depth studies covering Bulgaria, Ireland, France, Lithuania, Malta, the Netherlands, Poland, Portugal, Slovenia and Finland. Data collected at national level through desk research and interviews have been complemented by an online survey of VET practitioners in Europe.

Research reveals that VET teachers and trainers are often presented with different theories, but these are rarely explicitly linked with the learning outcomes approach. Instead, future practitioners in most countries are introduced to learning outcomes in practical terms, referring to how they are used in standards underpinning qualifications and VET curricula. Providers of training for VET teachers and training are predominantly supportive of the learning outcomes approach, though some report weaknesses in implementation in VET.

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CEDEFOP | European Centre for the Development of Vocational Training

Europe 123, Thessaloniki (Pylea), GREECE
Postal: Cedefop service post, 570 01 Thermi, GREECE
Tel. +30 2310490111, Fax +30 2310490020
Email: info@cedefop.europa.eu
www.cedefop.europa.eu

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