3 Strengthening pathways in upper secondary education

Despite the considerable efforts to raise enrolment in vocational education and improve its attractiveness, Lithuania has yet met its national targets and the lack of graduates with strong vocational skills creates gaps in some sectors of the labour market. This chapter discusses how Lithuania can strengthen pathways in upper secondary education. First, it focuses on how to improve students' transitions and orientation into upper secondary education. Second, it discusses how to create valued vocational pathways through upper secondary education by developing a distinct programme that balances general and specific skills. Third, it focuses on options to design pathways with clear and sequential progression out of upper secondary education and improve the quality of vocational programmes to support and encourage students in vocational education to transition to higher levels of education.

Introduction

Lithuania places significant importance on creating valued vocational upper secondary education that young people are attracted to and provides the country's economy with strong technical skills to drive production and innovation. The country has set successive targets to raise enrolment in vocational education and has made major investments in the infrastructure of vocational schools. Despite these policies, vocational enrolment remains below the country's targets and there are gaps in some sectors of the labour market where there are not enough graduates with technical skills to meet national needs.

This chapter suggests options for strengthening pathways in upper secondary education. It suggests reinforcing vocational education so that it becomes a distinct and respected option that enables young people to access high quality employment or further education. It focuses how young people transition into upper secondary education. It also discusses how the design of vocational education can shift away from the current model where Vocational Education and Training (VET) has largely been added on to the existing general programme, to create a distinct programme that balances general and specific skills. Finally, it discusses options for building clear pathways for progression out of upper secondary education and strategies to improve the quality of vocational programmes to support and encourage VET students to transition to higher levels of education.

Issue 1: Reviewing students' transitions and orientation into upper secondary education

In most education systems, when students transition from lower to upper secondary education it is the first time that they are actively engaged in making decisions that start to define their future pathways. Many factors influence students' experiences in upper secondary education and beyond, but a smooth transition from lower secondary education is the first and essential step in a successful journey through upper secondary education and into further education and/or employment.

One feature of a smooth transition is when all (or almost all) students transition into upper secondary education at the expected time (Perico e Santos, 2023[1]). While entrance into upper secondary education is currently automatic in Lithuania and most students transition to this level of education, the system provides little support and guidance for students to choose across general and vocational programmes. This makes it difficult for young people to make informed decisions about the upper secondary programme that is likely to best meet their needs and interests. There are similarly few systematic tools or support to help students develop an accurate understanding of the possibilities that might vocational programmes open up for them into employment or further education. In practice, this means that vocational education tends to be default option for students with low grades, contributing to its low prestige.

The current system of automatic entrance into upper secondary education in Lithuania combined with the absence of monitoring students' knowledge and skills at this transition point is not supporting all students to achieve their potential during upper secondary education. Improving student guidance to support transitions into upper secondary education in Lithuania can make students more aware of the options they have and enhance student motivation. It can also encourage more students to understand the value of vocational education and the opportunities that it offers for the future while helping to reach a better alignment in the labour market between supply and demand of skills. By making vocational education a valued choice as part of students' personalised pathways, improving transitions into upper secondary education can help to raise the prestige of vocational education and support national enrolment targets.

The current context: transitions into upper secondary education

Entrance into upper secondary education in Lithuania is currently automatic and entirely based on student preferences

While at the end of lower secondary education in Grade 10, students are required to take a national assessment, entrance into upper secondary programmes in Lithuania is automatic. Automatic entrance means that students are not required to demonstrate through classroom assessments or external examinations that they have met any academic requirements to progress into upper secondary education (Perico e Santos, 2023[1]). Currently the national assessment in Grade 10 does not carry any stakes and students who complete lower secondary education can directly transition into upper secondary education. Recently however, there have been national discussions around the importance of ensuring that students at the end of lower secondary have the basic skills required to succeed in the next levels of education and that they are oriented to the programme that best reflects their abilities, interests and ambitions.

Most students currently experience a "smooth" transition into upper secondary education

One feature of a smooth transition is when all (or almost all) students transition into upper secondary education at the expected time (Perico e Santos, 2023[1]). Figure 3.1 shows the enrolment rates at different levels of education at the theoretical age of transition in each OECD country and one year after. The theoretical transition age refers to the age when students are typically expected to enter upper secondary education in each country. In only 10 OECD countries do more than 90% of students transition at the expected transition age, of which Lithuania is one. In the current system almost all students in Lithuania (93%) transition into upper secondary education at the expected time (17). In some countries a large share of students do not transition into upper secondary education at the expected time, suggesting an unsmooth transition. This might be driven by entrance requirements to transition into upper secondary education and pedagogical practices such as repetition (Perico e Santos, 2023[1]). In Lithuania, where students experience smooth transitions, less than 1% of students repeat a grade during lower secondary education (OECD, 2018[2]).[1]

A smooth transition supports students to stay in education and complete upper secondary education

Transition points, especially at the secondary level, can create vulnerabilities for students to disengage and perhaps even leave education prematurely. This is not the case in Lithuania, where as well as transitioning into upper secondary education at the expected time, nearly all young people remain in education at the transition point. In 2020 in Lithuania, 100% of 17-year-olds and 96% of 18-year-olds were in education, even after the end of compulsory education (16). The high rates of enrolment in upper secondary contribute to high levels of attainment of upper secondary education which are among the highest across the OECD (OECD, 2022[3]). In contrast, in some countries, enrolment rates in education decline at transition points, and this could be related to different reasons like strict entrance requirements or complex selection systems. One factor contributing to the smooth transitions in Lithuania is likely to be that students currently do not face any entry requirements (e.g. passing an external examination) or selection to enter upper secondary education.

Figure 3.1. Share of students enrolled in lower or upper secondary education at transition age and one year after transition age
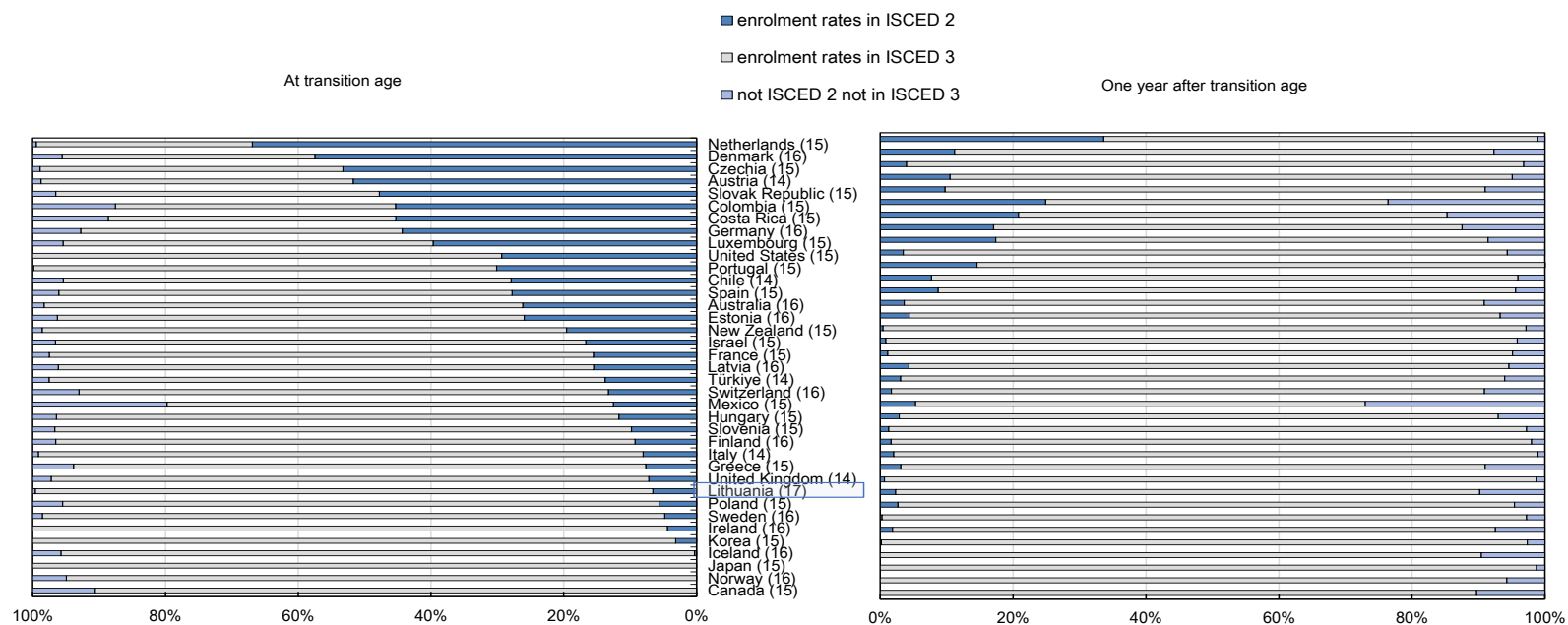
Notes: The number in parenthesis represents the theoretical age of transition into upper secondary education for each country. The left panel shows enrolments rates in ISCED 2 and ISCED 3 at the theoretical transition age, so the theoretical age during the first year of upper secondary education. The right panel shows enrolments in ISCED 2 and ISCED 3 one year after the theoretical transitions age, so the theoretical age during the second year of upper secondary education. It is assumed that age references in the enrolment data refer to 1 January of the reference year. For Australia, 30 June is used as the reference date for ages in both enrolments and population data for all education levels except pre-primary, which has the reference date 1 July for enrolments.
Countries are ranked in descending order of the share of students enrolled in lower secondary education (ISCED 2) at transition age.
Source: OECD (2021[4]), *Education at a Glance 2021: OECD Indicators*, https://doi.org/10.1787/b35a14e5-en.

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Less than a quarter of students aged 15-19 transition into vocational upper secondary education in Lithuania

The freedom that individual students are given in Lithuania in choosing the programme of their choice when transitioning into upper secondary education results in few students deciding to enrol in VET. The comparatively low levels of upper secondary students enrolled in vocational education in Lithuania, 23%, compared to 36% on average among OECD countries, is perceived to be one of the key challenges in upper secondary education by policy makers in Lithuania (OECD, 2022[3]).

A low number of graduates with vocational or technical skills has implications for the labour market as the demand for certain jobs are not met. Stakeholders in Lithuania reported to the OECD Review team that many sectors in the labour market need more specialists with vocational skills. Evidence shows that there are not enough graduates with vocational or technical skills to meet the future demand and, if they do not increase, Lithuania will experience a shortage of medium-skilled workers over the next decade, such as service and market sales workers, plant and machine operators and assemblers, and craft and related trades workers (Cedefop, 2020[5]). The data also shows the need to increase VET enrolment in fields of increasingly strategic importance for Lithuania such as environmental protection and information and communication technologies (OECD, 2021[6]).

Indicators of learning outcomes show that almost a quarter of students lack basic competencies upon entry into upper secondary education

A year before entry to upper secondary education, 15-year-olds in Lithuania perform below the OECD average in all domains in the OECD Programme for International Student Assessment (PISA) in 2018 (see Chapter 2) and around a quarter of them performed below the Level 2 proficiency level (24% in reading, 26% in mathematics and 22% in science) (OECD, 2019[7]). PISA Level 2 is usually considered the minimum level of competency that students need for success in life and work, and students who perform below Level 2 are considered "low performers". Since students in Lithuania are automatically promoted into upper secondary education, these data suggest that a quarter of students entering this level lack the fundamental skills to succeed in life and work. This is confirmed by results in the Grade 10 assessment, where in 2022 over 40% of students in mathematics scored below 4 which is considered the national pass grade in (NSA (National Agency for Education), 2022[8]).

The contribution of upper secondary education to young adults' skills is modest

While young adults in Lithuania perform around the OECD average in literacy and numeracy in the OECD Programme for the International Assessment of Adult Competencies (PIAAC), upper secondary education seems to play a more modest role than in other countries in contributing to young adults' skills (Figure 3.2). This is likely due to the design, pedagogy and resources in upper secondary education, but it might also be related to the fact that a quarter of the students who enter do so with low skills which are not effectively addressed during upper secondary education. In particular, the results from the state Matura suggest that gaps in students' mathematics knowledge and skills in Grade 10 are not effectively addressed by the end of Grade 12. In 2022, 93% of students passed the Matura state-level exam in Lithuanian but only 65% passed mathematics. The results are even lower in vocational schools, where 71% of students passed Lithuanian but only 19% passed mathematics (NSA (National Agency for Education), 2022[8]). It should also be noted that Lithuania's upper secondary cycle is slightly shorter than all the other PIAAC countries on average, so it might be expected that it plays a less significant role in bringing up learning outcomes than in other countries.

Figure 3.2. Differences in literacy proficiency, by educational attainment in PIAAC

Adults aged 25-65
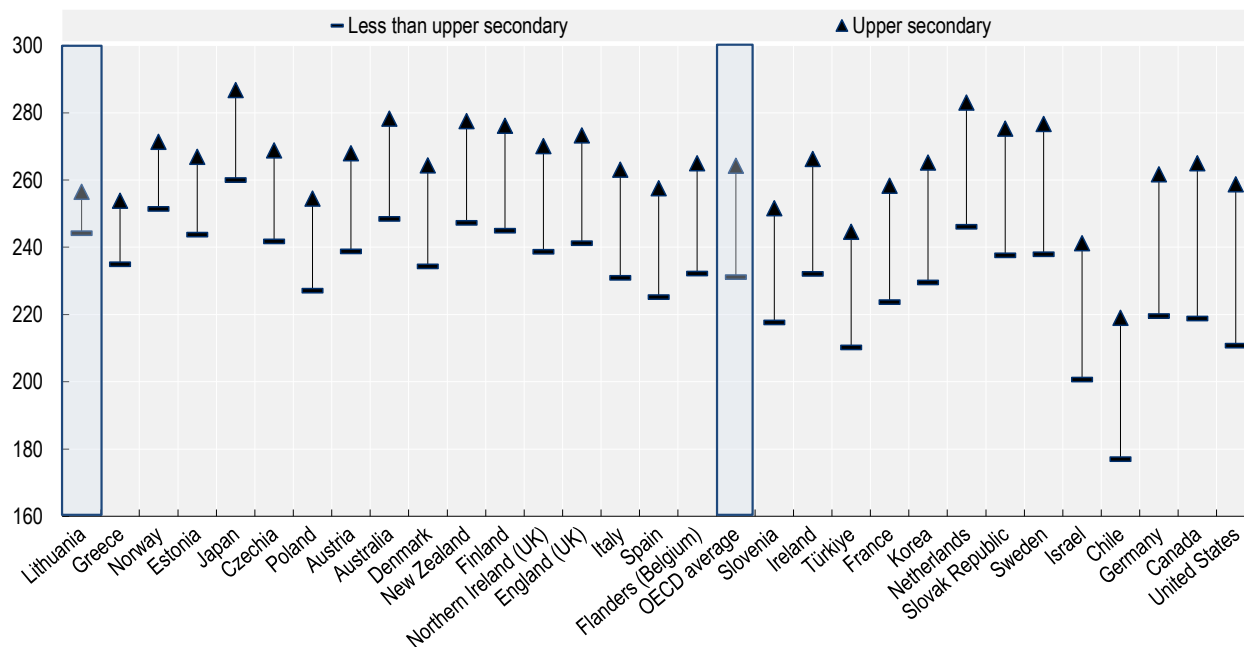
Note: Countries are ranked in ascending order by differences in the scores of adults who attained upper secondary education and those who did not.
Source: OECD (2012, 2015, 2018[9]), Survey of Adult Skills (PIAAC) (2012, 2015, 2018), Survey of Adult Skills (PIAAC) - PIAAC, the OECD's programme of assessment and analysis of adult skills, (accessed on 15 April 2023).

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From 2024, entrance into upper secondary education will depend on examination results

At the end of 2022, Lithuania passed a new Law which will introduce a threshold based on students' results from the Grade 10 assessment which will be used as an examination to determine access to upper secondary education which will be implemented from 2024. The purpose is to assess students' acquisition of basic skills at the end of lower secondary which are required to be able to access more complex content and succeed in the next levels of education. While the exact measures that the new Law will introduce were still underdevelopment at the time of this Report's publication, the new Law will likely mean that only those students with a mark above 4 (the national pass grade) in the Grade 10 national assessment will progress directly into upper secondary education. Those with marks below this threshold can retake the examination later in the same school year after receiving additional support at school. If they do not pass the second time, they can either repeat the year in the same school or they can move to vocational lower secondary school (ISCED 2) (Republic of Lithuania, 2023[10]).

The structure of lower and upper secondary education discourages enrolments in vocational education

In Lithuania, most lower secondary students are enrolled in a gymnasium school (around 75%) where they can stay after completion of lower secondary (Grades 5 to 10) to attend general upper secondary education (Grades 11-12) (see Chapter 2). However, students wishing to attend a vocational programme for upper

secondary education must move to a vocational school part way through the gymnasium. During workshops with the OECD, students reported that this structure discourages them from enrolling in VET because they have to leave the institutions that they are familiar with and their friends. In 2020, only 8.6% of students already enrolled in a gymnasium decided to enrol in a VET institution after completion of lower secondary education (Beleckienė, Kazlavickas and Palevič, 2022[11]).

Additionally, there are fewer vocational schools than gymnasia and in rural areas these are often located further away from the student's home, sometimes requiring them to attend a boarding school. In the regions of Aukštadvaris and Žeimeliai for example, there are no VET institutions available (Beleckienė, Kazlavickas and Palevič, 2022[11]). This creates a disincentive not only for students to enrol in upper secondary vocational education but also for their parents or guardians to encourage them to do so, since they are generally reluctant to send their 16-year-olds away from home.

Students in Lithuania lack guidance and support to help them identify the most appropriate upper secondary programme

Students transitioning into upper secondary education need guidance and support to realise their agency and exercise their choice. Young people's choices are often influenced significantly by their parents' pathways and occupations and are not always based on all the relevant information available (Perico e Santos, 2023[1]). At present there is little support to choose between upper secondary programmes in Lithuania, meaning that students are not fully aware of the potential pathways that vocational education might open and the opportunities it can offer for their future. Consequently, when making their choice, the practical challenges related to VET can dominate student decision-making, such as leaving their current school and having to attend a boarding school, while reliable and up-to-date sources of information about the potential employment and educational pathways after VET can be difficult to access. Different stakeholders to the OECD team noted that one consequence of the lack of information about VET means that only students with a strong conviction that academic learning does not suit them choose it, contributing to low enrolments.

Lithuania is introducing guidance counsellors from Grade 1

The agreement on national education policy in Lithuania established that by 2024 all learners must be provided with career guidance, vocational information, and counselling service (Beleckienė, Kazlavickas and Palevič, 2022[11]). Lithuania is planning to develop a network of career guidance specialists who would support students to develop a sense of their strengths and interests starting from Grade 1. Providing students with time to develop their meta-cognitive skills and self-awareness is essential to empower young learners so that they can exercise their agency and make informed decisions about their pathways later at high stakes decision points such as entry into upper secondary education.

VET is not perceived to be a rigorous learning option

Stakeholders reported to the OECD Review team that VET in Lithuania is not valued as highly as general education. Although many OECD countries report the same trend in the attractiveness of VET (Kuczera and Jeon, 2019[12]), in Lithuania there is a prevailing view that VET is an easier and less rigorous option than general education rather than a pathway where students can develop specific skills. In a survey on the perception of VET conducted in 2018 among European countries, 90% of respondents in Lithuania reported the perception that it is easier to get a qualification in vocational education than in general education (compared to 63% on average among European Union, EU, countries) (Tolstych, 2018[13]). During the OECD workshops with students and teachers, both reported that parents play a significant role in shaping their children's choices and that they usually encourage their children to pursue general education as they believe it offers more opportunities for the future.

Policy options for student transitions and orientation into upper secondary education

Considering the planned changes to the upper secondary transitions in Lithuania, the text below discusses how upper secondary transitions can be designed to become a useful moment where students, teachers and guardians come together to reach a personalised decision for each learner. This section also describes how information and careers guidance can also be used to help students and their families recognise the positive contributions that vocational education can make to their future pathways so that it becomes an active and valued choice for students. These changes to transition policies would need to be accompanied by the measures suggested in Issue 2: Creating valued vocational pathways through upper secondary educationto improve the quality and design of the vocational programme so that it is a high-quality option.

Option 1.a. Making personalised transition recommendations for each student based on a wide range of information

Put very simply, systems for transitions into upper secondary education need to help ensure that learners are oriented towards the programmes, subjects and levels that best suit their individual needs and interests and that support national economic goals. Yet, each learner has multifaceted talents, needs, and interests that change and evolve over their education and lifetime. Enabling learners to access the best pathways for them is very challenging. As learners transition into upper secondary education, one way to help ensure that programme choices are responsive to individual students and their needs is to draw on a wide range of information about learners across different contexts so that orientation decisions are as informed as possible. Most OECD countries where there is more than one type of upper secondary programme (as in Lithuania), draw on a wide range of information to guide student transitions from lower to upper secondary education (Perico e Santos, 2023[1]). This section discusses the sources of information that Lithuania might draw on so that each student can be supported to identify the programme that is likely to best respond to their needs and interests.

Monitoring student learning outcomes as they transition into upper secondary education

Upper secondary education is a distinctively different phase of learning compared to lower levels in most countries (OECD, 2020[14]). Upper secondary education focuses on more complex content, deepening learning and providing students with different learning options based on their interests (Stronati, 2023[15]). To ensure that learners have acquired the foundational skills in primary and lower secondary education– in many countries referred to the phase of "basic education" – to access upper secondary curricula, most countries use academic information to some degree to monitor student achievement as learners move into upper secondary education. Countries tend to use this information either to ensure that students have met basic requirements to enter upper secondary education, and/or to select or orient students to different upper secondary programmes (Perico e Santos, 2023[1]). Some countries also use this information diagnostically so that students can receive specific support or attend dedicated learning programmes in upper secondary education to address any identified gaps in basic skills.

Under its current system, Lithuania is the only OECD country that does not monitor learning outcomes as students move into upper secondary education. The country has automatic promotion into upper secondary education – which means that it does not set requirements to enter this phase of education - and it does not systemically draw on academic information to inform student transitions into upper secondary education. Countries that automatically promote students to enter upper secondary education, such as Australia, Ireland and Türkiye, still usually set requirements or standards based on academic achievement to determine whether students have met the required level and use this information to direct learners to specific programmes in upper secondary education (Perico e Santos, 2023[1]).

Given the recognised need for all young people to complete upper secondary education to be able to integrate successfully into the modern global economy, education systems should aim to ensure that all students can transition into upper secondary education (OECD, 2015[16]). Yet at the same time, transition systems need to monitor student skills to ensure that they have foundations to succeed with the more complex content at this level, and where different options exist, equitably orient students to the option that is most likely to support their needs. Achieving these two policy aims is a complex balancing act. In Lithuania, as a first step, collecting and monitoring some form of information about learning outcomes as students transition into upper secondary education will help to ensure that transitions are grounded in at least one source of information about learners' strengths and areas where they might need more support. The new Law that was recently passed makes provisions for this, by drawing on information on student achievement in the national assessment that students already take at the end of Grade 10 in mathematics and Lithuania as part of the process for transitions into upper secondary (see Chapter 2). However, it will need to be accompanied by appropriate supports and pedagogy so that students are able to master basic competences and strengthen their foundational skills before the end of initial schooling. Issue 2 discusses approaches that Lithuania could consider providing this support (see Issue 2: Creating valued vocational pathways through upper secondary education).

Carefully considering how the new threshold can influence transitions and how it can be used to provide additional support

According to the new Law, from 2024 entrance into upper secondary education will be conditional on passing the Grade 10 assessment. Only those students with a mark above 4 will be able to enrol in upper secondary programmes. Those below this threshold can retake the examination and if they fail again, they can decide either to repeat the last year of lower secondary education in the same school or to move to a lower secondary VET school (Republic of Lithuania, 2023[10]). While this new change might set some requirements around student skills upon entry to upper secondary education, it will not provide students with the support that they need to improve their knowledge and skills (see Issue 2: Creating valued vocational pathways through upper secondary education). Lithuania will need to carefully consider how to provide targeted support to those students who are not ready to transition into upper secondary education and how to limit the risks associated with grade repetition or automatically directing students with low grades into VET.

While the current system is characterised by smooth transitions into upper secondary education, it is possible that with the new threshold a small minority of students will fall out of the system. Higher rates of repetition tend to lower the share of students who transition at the expected age and can also have negative effects on students' well-being and motivation, increasing the likelihood of early school leaving (Perico e Santos, 2023[1]). Evidence shows that grade repetition can also be costly for education systems, since students stay in school for one extra year, and is ineffective in raising learning outcomes (OECD, 2018[17]). Lithuania could consider using more flexible alternatives to grade repetition adapted to the specific circumstances of individual students (Perico e Santos, 2023[1]). In the United States, when learning gaps are identified, students are usually offered academic support and guidance instead of being retained (OECD, 2018[17]). In New Zealand and the United Kingdom, repetition is limited to specific subjects or modules with targeted educational assistance, allowing students to move on to the next education level while still addressing their learning gaps (Stronati, 2023[15]).

The inconsistency between the results across years makes it difficult to predict the share of students that would need to receive additional support and repeat the grade. Figure 3.3 shows the performance of students in the Grade 10 examination in Lithuanian and mathematics. The results over the past two years are highly variable. While less than 5% of students received a mark below 4 in Lithuanian in the past two years, the results for mathematics are inconsistent going from 20% with a mark below 4 in 2021 to 40% failing in 2022. The variability in the results from the Grade 10 examination raises questions about how far it is an reliable and valid measure of student learning outcomes that can be used for high stakes purposes.

Lithuania will need to carefully explore the factors that led to the dramatic fall in mathematics results in 2022 in Grade 10, including understanding how far similar changes regularly occur or how far it was a one-off event. The state Matura results in mathematics showed a similar trend in 2022 which led to many national discussions. Chapter 4 focuses on the Matura and discusses how the country might respond to the 2022 maths results, including by creating a national investigation into the state Matura mathematics results and recent variations in performance.

Lithuania has the longest lower secondary education cycle across OECD countries (together with Germany), with a duration of six years. The end of lower secondary education at 16 marks also the end of compulsory education. Lithuania could consider using the standardised tests in Grades 6 and 8 to identify students with learning difficulties and intervene before they reach the end of lower secondary education. In France for example, national assessments are used diagnostically to provide a precise overview of each student's skills in French and mathematics in order to help teachers implement personalised support (Ministère de l'Education Nationale et de la Jeunesse, 2023[18]).

Figure 3.3. Share of students by result from the Grade 10 assessment in Lithuanian and Mathematics (2022 and 2021)

The red lines represent the threshold that will be introduced by the new Law
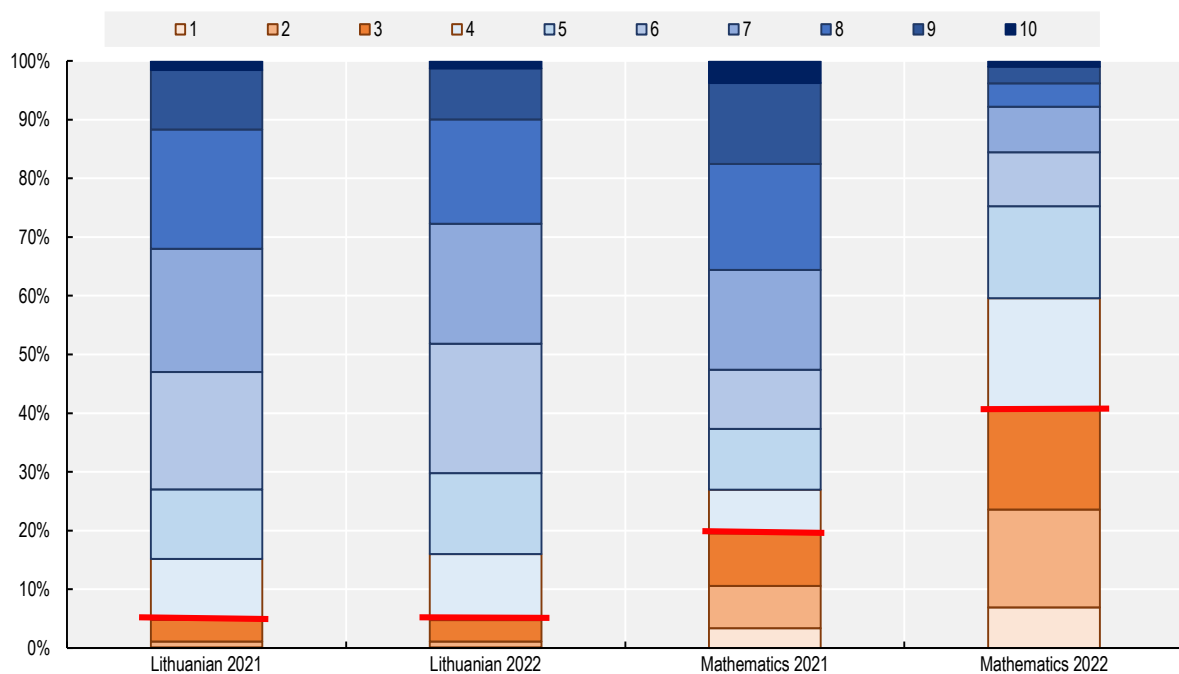
Source: NSA (National Education Agency) (2022[19]), Rezultatai PUPP (PUPP Results), https://www.nsa.smm.lt/egzaminai-ir-pasiekimu-patikrinimai/pupp/ (accessed on 2 May 2023).

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Reconsidering the sources of information for transition decisions

While Lithuania's new Law on transitions into upper secondary education will draw on more sources of information than in the past, it will still be limited to two sources – student performance in the Grade 10 examination and student and guardian views. It is important to note that student and guardian views will

be significantly constrained by student performance in the Grade 10 examination for some students (i.e. those that perform below the threshold).

In contrast, most OECD countries use a combination of sources of information to inform student transitions into upper secondary education. Countries typically draw on academic information, students' preferences, and teachers' recommendations because guiding students to different programmes requires a broad perspective on a student's interests and aptitudes and carries high stakes for their future (Perico e Santos, 2023[1]).

Lithuania might consider expanding the sources of information that will inform transition decisions. The new Law proposes to use information from the Grade 10 examination that will provide external, objective information about student performance. External forms of assessment play a particularly important role in high stakes decisions as they are more objective and reliable than teachers' judgements (Bol et al., 2014[20]). In the Netherlands for example, a country with early selection into lower secondary programmes at the end primary education, after experimenting with both examinations and teachers' judgements for student progression, it was found that the former can provide an important challenge or counterweight to teachers' biases towards certain groups of students (Bureau for Economic Policy Analysis, 2019[21]). The importance of objective, external information is especially important in Lithuania given national concerns about the reliability of teachers' assessments (see Chapter 4).

However, student performance in the Grade 10 assessment will only provide a single snapshot of student performance over a couple of hours on a single day in two subjects. Countries which do use information from examinations often complement this with teachers' classroom assessments, which can provide a broader, and arguably more valid perspective on student learning and development. Classroom assessments can generate important information about student performance as they can be based on multiple assessments of different skills and knowledge at different times over an extended period of schooling (Galla et al., 2019[22]).

Lithuania might consider drawing on the following sources of information to provide a rounded perspective on an individual student at the time of transition and provide the basis for informed decisions about programme choice:

- students' academic information from the Grade 10 examination to provide a reliable and objective measure of student achievement
- students' academic information from previous classroom assessment results to provide information on a wider range of skills and knowledge
- suggestions to students from teachers on the upper secondary programme which will best support their learning needs and aspirations provided as guidance and which is not binding
- the views of students and their guardians

Considering how information is combined to develop a personalised recommendation for each student

Aside from the sources of information that transition decisions are based on, how information is combined to make decisions is also arguably even more important to create an equitable system where learners can access the educational options that best suit them (Perico e Santos, 2023[1]). In Lithuania, the new career guidance counsellors could provide thoughtful, informed advice to students and their families to help them develop achievable yet ambitious aspirations and understand how to realise them.

During Grades 9 and 10, counsellors could be required to have multiple discussions with every student expressly to start thinking through their options for upper secondary education, and to begin identifying their interests and ambitions. Counsellors could be expected to systematically consider the information that students share with them and combine it with different sources of information, including academic

information and teachers' recommendations, to make a personalised recommendation for each student. Counsellors might share the recommendation for each student with them and their guardians during an individual meeting during Grade 10. Sharing the recommendation during a meeting would provide the setting to discuss how the counsellor reached this decision, outline the potential future pathways it will open for the student and respond to their questions.

Counsellors should be external from the school and provide a non-binding recommendation

It is fundamental to ensure that counsellors are able to reach decisions that are focused on individual student needs that they are independent from the school administration. The latter is important because of the competitive funding system between schools based on the number of students enrolled in Lithuania (OECD, 2016[23]) which might impede school staff's ability to provide impartial advice. In the past teachers from the school were responsible for providing career guidance. With the new reforms and the introduction of counsellors, the Ministry of Education will finance the initiative, but the municipalities will manage the funds and decide how to organise it (Beleckienė, Kazlavickas and Palevič, 2022[11]).

The advice from counsellors could be part of the placement process as a non-binding recommendation to ensure that students and their guardians have a say in the programmes that students enter. In France and in some regions of Germany (the latter in the case of transitions from primary into lower secondary education), when academic information and/or recommendations by teachers and schools are taken into account, students and guardians have the final say on the programme that students attend. These systems create the space for students and families to challenge decisions when they are oriented towards pathways that do not reflect their interests or preferences (Ministère de l'Education Nationale et de la Jeunesse, 2022[24]; Grewenig, 2021[25]).

Option 1.b. Ensuring that students and their guardians play an informed role in transition decisions

Giving students the autonomy to decide which upper secondary programme they attend is key to helping them start defining their individual pathway towards areas they are interested in and ensuring that they have the necessary skills to do so. This autonomy is also important for developing students' personal sense of agency and the metacognitive skills that are essential for navigating the unstructured worlds of work and further education when they leave school (Perico e Santos, 2023[1]).

In Lithuania, students currently exercise a large amount of freedom in choosing their upper secondary programme. However young people, like all individuals, need to be supported through accessible information and multiple opportunities to discuss their options. Without this guidance, young people are likely to fall back on preconceived notions of pathways that are not informed by an accurate understanding of different programmes and their pathways into further education and employment (Perico e Santos, 2023[1]). To increase VET enrolments in a way that is sustainable and equitable, it is fundamental to provide students with information that enables them to actively decide whether they want to enrol in it. The following section considers how students can be empowered through information and guidance to make informed decisions about their upper secondary transitions.

Developing career-related learning from an early stage to promote subject and career exploration

Based on the OECD's meetings in Lithuania and workshops with students and teachers, students in Grade 10 do not seem to be sufficiently informed about vocational education. However, they know that practically they will need to leave their current school (if they attend a gymnasium) to enrol in a vocational school and they are likely to be surrounded by negative opinions about VET from family and friends (Tolstych, 2018[13]). Moreover, students in Lithuania do not receive any career-related learning in lower grades. In workshops

with the OECD, students reported that in practice, they start to form an opinion on VET only when there is the immediate pressure of transitioning into upper secondary education. It is crucial to give students plenty of time to build informed opinions and think about their choices. Early student guidance can benefit students by increasing their engagement in school and by providing adequate time for personal reflection to plan for the future (Covacevich et al., 2021[26]). Evidence shows that carefully planned guidance interventions as early as primary school can boost children's career awareness and ambition, as well as diminish career gender stereotyping and help them acquire a better sense of their career-related skills (Hughes, 2021[27]).

Lithuania is already planning to introduce in 2024 a new career-related guidance system starting from Grade 1 and, if effectively implemented, this could help students to build more accurate and informed opinions on VET. As well as information, career-related education can also include practical activities designed to give pupils a wide range of experiences of education, transitions and the world of work so that they can develop views based on their own first-hand experiences (Primary Careers Resources, 2022[28]). A career guidance system could, for example, encourage students to explore different subjects and areas of learning.

In Lithuania, all students, regardless of current academic performance, could be given the chance to take some vocational subjects at the lower secondary level before they transition to upper secondary education. Since in Lithuania VET school infrastructure has received significant funding in recent years, learners might enjoy visiting and learning in its different setting, including simulated work environments. This would likely facilitate students' choice of upper secondary programme as they would be able to make a more informed decision in Grade 10 based on their practical experience of vocational education. Other ways to inform decisions on different options include organising school visits, in particular in VET schools, for both students and their guardians and organising meetings with employer representatives to explain the different options and share student outcomes from both general and vocational uppers secondary programmes in terms of progression to post-secondary education and employment.

Ensuring that students and their families are supported through accessible, transparent, and up-to-date information

It is important to ensure that students' and their families' decisions about upper secondary pathways are supported through accessible, transparent, and up-to-date information and guidance to understand the options available and their consequences for the future. While accurate, useful and accessible student guidance and careers information is difficult to provide, it is important because research suggests that students and their parents tend to make decisions based on biases or their personal experiences rather than objective decisions about the labour market outcomes associated with different pathways (Mann et al., 2020[29]).

As part of the suggested meetings between the new career counsellors, students and potentially their guardians (see Option 1.a. Making personalised transition recommendations for each student based on a wide range of information), some of these meetings could be devoted to providing up-to-date and accurate information on labour market outcomes by different upper secondary programmes. The meetings could also be used to discuss the perceptions of students and their families of different options, using data to challenge perceptions where they are inaccurate.

To enable career counsellors to lead these kinds of discussions, it is essential that there is easily accessible digital information on the labour market, in particular showing the current gaps in labour market skills and educational outcomes by different programmes. In Scotland, on a website dedicated to career guidance, parents can find information on how to help their children discover their interests and identify a pathway that aligns with their skills and knowledge (Skills Development Scotland, 2022[30]).

Currently in Lithuania, students and families are provided information about vocational programmes through school-based advising and the website developed for their use, AIKOS (Open Information, Counselling and Guidance System). However, the website does not include information about the labour market outcomes of different study programmes and training. Similarly staff in schools, who are responsible for advising students on their career opportunities, do not have information on employment outcomes and earnings. The new reforms plan to offer counsellors a training programme and other tools, such as up-to-date labour market information and data (Beleckienė, Kazlavickas and Palevič, 2022[11]). Lithuania could also expand the existing website, AIKOS, with the same information to ensure equitable access to information for all students and their guardians.

Option 1.c. Reconsidering the structure of schooling to facilitate transitions into upper secondary education

The current structure of the education system in Lithuania discourages enrolment in vocational education as students are required to leave the institution they are familiar with, and in some areas even their home, to move to a vocational school. To address the current structural barriers and disincentives to VET enrolment, Lithuania could consider promoting more interactions between vocational and general schools and facilitate the transition to VET. This section explores different options, some are measures that could be implemented in the short to medium term by building on the current reforms, such as offering part of some VET programmes in general schools or encouraging co-operation between general and vocational schools. Other options could be implemented over the long term such as changing the structure of the system.

Exploring options to provide some VET in general schools

The education system in Lithuania does not encourage students to enrol in VET as in most cases, students must leave their current school (if they attend a gymnasium) and move to a vocational school. In some cases, especially for students living outside the main urban areas where most vocational schools are located, deciding to attend vocational upper secondary education requires going to a boarding school. Currently, as part of a pilot that aimed to facilitate the exploration of VET, students in some general schools are given the chance to attend a few vocational classes in the closest vocational school. However, stakeholders reported to the OECD that students have to arrange by their timetables themselves to enable this as well as the travel to the other school. Sometimes clashes between different timetables or long travelling time between schools make it impossible for them.

Among OECD countries, the organisation of VET in the upper secondary system differs greatly depending on the country's historical, social, and geographical context and needs (Stronati, 2023[15]). Some countries provide many different VET programmes while others do not provide it as a distinct programme. Some countries organise vocational and general programmes in the same building (such as Sweden) and others in separate buildings (such as Germany). To make it easier for students to enrol in VET and address the practical challenges Lithuania could consider a range of different institutional set-ups, some of which might exist alongside each other:

- Developing well-designed programmes that bridge vocational and general education

  Lithuania could consider developing clearly defined programmes that bridge VET and general education, where students would be required to develop both strong general skills and some vocational. For example, it could provide specific programmes, such as technically oriented VET programmes for students with strong mathematics and science skills and/or interest. In this model students, who live in areas where vocational schools and gymnasia are close together (e.g. in cities), could attend general classes with general students and then have the VET classes at the closest vocational school (see Issue 2: Creating valued vocational pathways through upper

secondary education). In contrast to the current pilot, students would be enrolled in a specific and well-designed vocational programme which would include a timetable and a defined set of subjects.

- Providing practical VET content as a defined residential programme

  In rural areas, where there are additional challenges as vocational schools tend to be located far from young people's homes, Lithuania could allow students to start VET in a gymnasium for the first two years to receive general education together with the theoretical part of the vocational training in the school. At the same time the practical part of the vocational training could be delivered in blocks in the closest vocational school. Sweden in 2018, launched a pilot of ten branch schools, which offer specialised VET programmes in areas where either there are not enough students interested in VET, or the cost of provision is too high to justify the creation of full VET schools (Kuczera and Jeon, 2019[12]). Under this pilot, VET schools can send their students for at least six weeks to a branch school obtaining the part of their education and training that cannot be provided in the local school. Lithuania could implement a similar model in gymnasia located in areas where VET schools are too far for students to commute. The timetable and travelling would be managed by the two schools in co-operation as part of the same vocational programme.

- Creating a longer, sequential VET programme

  To address the issue of VET provision in rural areas, Lithuania could also consider providing a longer and sequential VET programme, that starts in the gymnasium and them moves to a VET institution when students are older. In the Norwegian 2+2 VET system, vocational students spend the first two years of upper secondary education in the same school with general students and then in the last two years, they receive vocational training separately, usually in the form of an apprenticeship (CEDEFOP, 2017[31]).

  Lithuania could consider applying a similar model, since the current system is already similar (2+1 instead of 2+2). Students could start VET in a gymnasium for the first two years and then move, when they are 18, to a vocational institution for two years like in the Norwegian model (which at this point, may involve them moving away from home). This could encourage more students to enrol in vocational education as they would not need to leave the gymnasium earlier than their peers and they would avoid enrolling in a boarding school at a young age when the closest VET school is too far from home. This option could be merged with the previous option inspired by the Sweden example by letting students stay in the gymnasium for two years while receiving some, more theoretical, VET training in blocks during the first two years and then requiring them to move to a VET school only for the third and last year of the programme. It is important to note that in both options students who decide to enrol in VET but stay in a gymnasium for logistical reasons, should attend a programme where the content is adapted to their needs (see Issue 2: Creating valued vocational pathways through upper secondary education).

Promoting co-operation between general and vocational schools

Increasing the attractiveness of, and enrolments in, VET, in a small country like Lithuania requires a strong school network and co-operation across vocational and general schools, so that they can work together flexibly to meet students' needs. This is particularly important given the foreseen decrease in the student population that Lithuania is facing related to demographic trends (OECD, 2023[32]). Reducing the number of schools but creating stronger co-operation and connections across schools could enable Lithuania to provide students with different options and diverse pathways that can still accommodate their interests and needs.

Currently in Lithuania, co-operation between general and vocational schools can be challenging since the former are managed by municipalities and the latter by the Ministry of Education (OECD, 2016[23]). In addition to this, the funding system based on the number of students that attend a school creates competition between schools and can create disincentives for schools to encourage students to move to

VET schools at the end of Grade 10. Estonia, which had a similar setting, where students enrolling in upper secondary general education would remain in the same school and general schools were managed by municipalities, created the so-called "clean gymnasia" (offering only Grades 10-12) while introducing state gymnasia that are managed by the Ministry of Education (Box 3.1). The common governance of general and vocational schools could help reinforce the links between the two types of schools and facilitate sharing of equipment and infrastructure (Musset, Field and Mann, 2019[33]).

Other potential strategies to improve co-operation across general and vocational schools include:

- Creating specific programmes that bridge vocational and general education (see Exploring options to provide some VET in general schools).
- Creating a twinning scheme between general and local vocational schools where they are required to develop co-operation programmes / activities in at least some areas (e.g. common sports day, bringing teachers together for professional learning).
- Creating funding incentives to encourage and reward collaboration (Kuczera and Jeon, 2019[12]).
- Publishing and recognising examples of good school co-operation.
- To incentivise good practices among schools, Lithuania could also consider reviewing, in the context of school evaluations, how schools support students to make informed decisions.

Lithuania could introduce compulsory training and information campaigns to schools about the importance of transitions decisions being individually tailored to each student. Providing independent and personalised recommendations for each student will also support this (see Option 1.b. Ensuring that students and their guardians play an informed role in transition decisions).

Box 3.1. Transitions into upper secondary education and the school network in Estonia

A context similar to Lithuania

Historically, schools in Estonia have been providing education from primary education to upper secondary education. As in the case of Lithuania, if students decide to enrol in general education when transitioning to upper secondary education, they can remain in the same school. On the contrary, if they want to attend vocational education, they must enrol in a vocational institution. This creates a disincentive for students and almost two-thirds of lower secondary graduates decided to continue their studies in the same school and enrolled in general education in 2022.

In resemblance with the Lithuanian system, schools in Estonia have an incentive to encourage students to enrol in general education. The co-operation between general and vocational schools is challenging as, the former are usually managed by municipalities, the latter by the Ministry.

OECD recommendations

To reduce the risk of bias in the student's decision on whether to pursue general education or VET, an OECD review from 2019 recommended to separate upper secondary institutions (Grade 10-12) from basic schools (Grade 1 to 9) and to modify the governance of schools by giving to the Ministry full responsibility for Grades 10-12 and leaving the management of basic schools to municipalities. This separation would help to establish Grade 9 as a point where students decide on their programme choice, without any default option of simply staying in the same school. Furthermore, it was suggested to take advantage of local synergies to pursue collaboration between upper secondary general schools and VET schools, and merge general and VET schools where it is useful to do so.

On its way to success

Since 2010, Estonia started creating "state gymnasiums", which offer only upper secondary education, and their number already reaches more than 20, covering all Estonian counties. At the same time, Estonia started separating upper secondary education (gymnasia) from previous level of education (basic education schools). In the academic year 20220/2023, 158 so-called clean gymnasia (offering only Grades 10-12) started operating.

Source: Musset et al (2019[33]), Vocational Education and Training in Estonia, OECD Reviews of Vocational Education and Training, 10.1787/g2g9fac9-en; Ministry of Education and Research, Republic of Estonia (2023[34]) Secondary education, https://www.hm.ee/uldharidus-ja-noored/alus-pohi-ja-keskharidus/keskharidus (accessed on 1 August 2023).

Considering restructuring the education system to facilitate students' transitions

Transitions are delicate moments in a student's journey through education because they have to invest socially and emotionally to adjust to a new environment, new expectations, and new adults. This consumes student energy and resources, and it makes transitions a moment of vulnerability for students. Consequently, student grades tend to fall at transition points during schooling (OECD, 2018[17]). While some transitions cannot be avoided and are important so that students can attend institutions suited to their increasing maturity and educational needs, it also makes sense to minimise transitions where possible.

The current structure in Lithuania creates two major transitions very close to each other for some students, at Grade 8, when students move into the gymnasium and then in Grade 10, for students who enrol into upper secondary vocational education. Concentrating transitions for students who move into upper secondary vocational education while their peers in general education have fewer transitions seems an unfair disadvantage for vocational students. This is particularly challenging for vocational students who already tend to have lower school achievement in general subjects. Vocational students are also more likely to leave their programme before completion. In 2022, 60% of vocational students in Lithuania completed their programme in contrast to 90% of general students (OECD, 2023[35]).

The structure of upper secondary education in Lithuania also creates distinctive for other reasons. In comparison to other OECD countries, Lithuania is an outlier as students start upper secondary education later at 17 (OECD average starting age is 15) and they stay for a shorter amount of time, two years (OECD average duration is three years) (Stronati, 2023[15]).

Given the current disincentives for students to enroll in VET after completing lower secondary education in a gymnasium, Lithuania could consider adjusting the duration of school cycles to better coincide with the structure of lower and upper secondary education and minimise the disruptive transitions that students wishing to choose vocational education experience. The upper secondary cycle could be extended to three years and remain located in the gymnasia and vocational schools, while the lower secondary cycle could be shortened to three years and moved to the pre-gymnasia. This new structure, more in line with the other OECD countries, would enable students to decide more objectively between general and vocational education when transitioning from lower secondary education. Students wishing to attend a vocational school would be no longer obliged to leave their current gymnasium and the rest of their cohort. It would also help to reduce the incentives that gymnasia might currently feel, to either retain students whose interests might be well supported by a vocational school and conversely to require low-performing students to leave to maintain publicly high results in the state Matura examination (see Exploring options to provide some VET in general schools for other examples on how to minimize students transitions).

Issue 2: Creating valued vocational pathways through upper secondary education

Currently in Lithuania, VET is almost designed as an "add-on" to the general upper secondary programme with general and vocational students studying a similar set of subjects and being assessed in the same way. While the reforms that will be implemented in 2023/24 will provide VET students with more choice and flexibility to adapt the curriculum to their needs and interests, the overall structure of the VET system does not encourage completion or enable learners to acquire the skills that they need either for employment or continuing education.

On one side, vocational upper secondary students who find the general curriculum content very demanding or uninteresting are required to dedicate at least 22 hours a week to general subjects (compared to 28 hours for general students). At the end, they take the same Matura examinations for upper secondary certification as general students. The Matura will become even more demanding when all the examinations are set at state level from 2024, replacing the school level examinations (see Chapter 4). On the other side, any high performers in vocational education who want to pursue tertiary education do not have an incentive to remain in education for the third year to obtain the vocational certification after passing the Matura because the Matura provides access to this level of education. It should be noted however that very few vocational graduates – around 2% each year- access tertiary education as they have to meet the same requirements as students in general education despite having less time devoted to general education and having to cover vocational content at the same time.

The design of the current vocational pathway is not equipping students with the general or vocational skills that they need for the future, either to continue their studies or to join the labour market. In systems with more than one programme at the upper secondary level, the status of vocational education is promoted by "keeping it separate from the academic track and helping it to develop a distinctive identity and ethos, so that it is not simply judged by the values of the academic track" but also by the distinctive value of its qualifications on the labour market ((Raffe et al., 2001[36]), p. 179). This issue considers how Lithuania could create vocational upper secondary pathways with its own valued, distinctive identify and ethos.

The issue suggests that Lithuania consider designing two separate upper secondary VET options. One more work-based that gives students extra support to meet minimum requirements in general subjects and prepares students to enter high quality options in the labour market or post-secondary options at ISCED 4 (and a potential pathway into tertiary education) (see Issue 3: Designing pathways with clear and sequential progression out of upper secondary education). Another programme, more technically oriented as a pathway into technically focused employment or the new vocationally oriented ISCED 5 tertiary qualification that Lithuania is introducing. Providing clear, distinct and diverse pathways in upper secondary education would allow students to study content that it is more tailored to their needs and aspirations while ensuring that upper secondary vocational graduates are better prepared and specialised for lifelong learning and employment. These changes could help improve the attractiveness of VET and the outcomes of vocational students.

The Current context: upper secondary vocational pathways

The general content for VET students is not tailored to their interests or needs

In Lithuania, students enrolled in general and vocational education are required to study a similar set of subjects from compulsory categories (Table 3.1.). The main difference between the general and vocational curriculum is that general students decide between level A (advanced) and B (general), while vocational students usually only take subjects at the B level as they need to dedicate their time also to VET subjects. Level A and B differ in the amount of teaching hours and the amount of content that is covered rather than the depth of learning and degree of mastery required to demonstrate proficiency. In contrast most systems

that provide some subjects at different levels, often a national language and mathematics, use the different levels to provide varying levels of demand or depth of study across the different options (Stronati, 2023[15]).

As well as having to study a similar set of general subjects as students in general education, vocational students have compulsory vocational content linked to the specialisation they choose. Cumulatively, this creates a lot of teaching hours. OECD data on net teaching time shows that Lithuania is one of the few countries where vocational students spend more hours in the classroom over a school year than their peers in general education (OECD, 2022[3]).

VET students have to meet the same requirements as general students for upper secondary certification and eligibility for tertiary education

To complete upper secondary education, general and vocational students take the Matura examination, after two years of upper secondary education. Students can decide in which subjects they want to take examinations, except Lithuanian which is compulsory (and mathematics if they wish to attend tertiary education), and which type of examination depending on their aspirations and plans. In the current system students can decide if they want to take a school level or a state level examination in a specific subject. The state level examinations are organised externally to the school by the Department of National Examination within the National Education Agency and so are perceived as more reliable and are recognised for entrance into tertiary education. However the content assessed in both examinations is the same.

To obtain the upper secondary certification (*Brandos atestatasm,* the Maturity certificate), students need to pass examinations in at least two subjects, including Lithuanian, and have passing grades in all subjects from classroom assessment (Table 3.1.). To enter tertiary education, students need state level examinations at least in three subjects, including Lithuanian and mathematics. Tertiary institutions set their own grade requirements for entrance depending on the subject of the degree and institution.

Table 3.1.Upper secondary curriculum and certification – current system

	Subjects	Levels at which subjects are taken		Matura examinations	
		Levels	VET	USE certification 2 subjects	Tertiary entrance 3 subjects
Compulsory	Ethics / religion	Single level		School level	State level
	Lithuanian Language	A (advanced) or B (general)	B (general level)	School level Compulsory	State level Compulsory
	Foreign languages	A or B	B	School level	State level
	Social sciences (at least one from History or Geography)	A or B	B	School level	State level
	Mathematics	A or B	B	School level	State Compulsory
	Sciences (at least one from biology, physics or chemistry)	A or B	B	School level	State
	Physical education (at least one from basketball, football, athletics)	A or B	B	School level	State
	Arts or Technological learning (at least one from arts, music or technological skills)	A or B	B	School level	State
	Vocational subject		Vocational specialisation	Assessed and certified separately	

Subjects		Levels at which subjects are taken		Matura examinations	
		Levels	VET	USE certification 2 subjects	Tertiary entrance 3 subjects
Electives	E.g. psychology, economics, business, ICT to advanced physics, biology, etc.	Defined by school teaching capabilities. .		No examination	No examination
	Project	Optional	Optional	Municipal level, teacher committee	Municipal level, teacher committee
Total general curriculum hours		Minimum 28 hours Maximum 35 hours	Minimum 22 hours Maximum 35 hours		
Total examined subjects				2 subjects Passing grades from continuous assessment in all subjects	3 subjects

Source: Adapted from national information and stakeholder meetings in Lithuania

The new system provides more flexibility and choice for vocational students

Table 3.2. summarises the new curriculum and certification system in upper secondary education in Lithuania which will be introduced in 2023/24. The new curricula will be more differentiated, requiring vocational students to take fewer general subjects than previously and allowing for greater choice over subjects. Overall, the new requirements will reduce the number of compulsory subjects and hours that all students need to take but will give students space to add more if they wish. In the new system, subjects will be all taught at the same level for all students. With the exception of Lithuanian and mathematics which will be offered to all students at two levels – basic and extended – giving students the chance to study at different levels of difficulty and depth in contrast to the current A and B levels.

The Matura will also change as the school level examinations will be abolished and only state level examinations will be available to students. This change reflects the perception that the school level examinations were not to be reliable with wide variations across the country. Upper secondary certification will be conditional on passing at least two state examinations, including Lithuanian, while entrance to tertiary education will be conditional on passing at least three examinations, including both Lithuanian and mathematics (Table 3.2). Both levels of mathematics and Lithuanian will give access to tertiary education, but students taking the basic level will need a higher mark than those in the extended level. The Matura reform will result in vocational and general students taking a qualification that is equally recognised, given the external objectivity of state examinations compared to the old school level examinations (which students in the vocational programme tended to take).

Table 3.2.Curriculum and examinations – new system 2023/24

Subjects		GEN	VET	State-level Matura Examinations
Core / compulsory	Lithuania Language	Compulsory	Compulsory	Compulsory Intermediate and final examination Basic and extended level
	Mathematics	Compulsory	Compulsory	Compulsory for tertiary entrance only Intermediate and final examination Basic and extended level
	Physical education	Compulsory		No examination
	At least one foreign languages	Compulsory	At least two subjects from	Intermediate and final examination

Subjects	GEN	VET	State-level Matura Examinations	
Electives (depending on programme) At least one from science and technology group	Compulsory	foreign languages, mathematics, science and technology group; and social sciences group	Intermediate and final examination	
At least one from social sciences group	Compulsory		Intermediate and final examination	
At least one from moral education	Compulsory	Optional	Intermediate and final examination	
At least one from arts group	Compulsory	Optional	Intermediate and final examination	
Defined by school teaching capabilities. E.g. psychology, national security and defense, law, history of art, geographic information systems, astronomy, etc.	Optional	Optional	No examination	No examination
Project	Optional	Optional		
Total general curriculum hours	Minimum 25 hours Minimum 8 subjects	Minimum 17 hourrs Minimum 5 subjects		
Upper secondary certification			At least two subjects including Lithuanian	
Tertiary entrance			At least three subjects including Lithuanian and mathematics	

Source: Adapted from national information and stakeholder meetings in Lithuania

Upper secondary vocational students might not have an incentive to stay in school to complete their vocational programme

After taking the Matura examination for upper secondary certification and tertiary entrance, vocational students have to stay in school for an additional year to focus on vocational content and take a vocational examination (*Asmens įgytų kompetencijų vertinimas*, Assessment of competencies acquired by individuals*)* for their vocational qualification (*Profesinio mokymo diplomas,* the VET diploma). However, not all VET students remain in school for this additional year. In 2022, only 61% of vocational upper secondary students completed their programme compared to the OECD average for VET students of 70%, and far less than students in general programmes (90%) (OECD, 2023[35]). It is important to note that since in Lithuania VET students are required to take two examinations, it is likely that these students who do not complete their programme have an upper secondary qualification but did not complete their third year to get also the VET qualification.
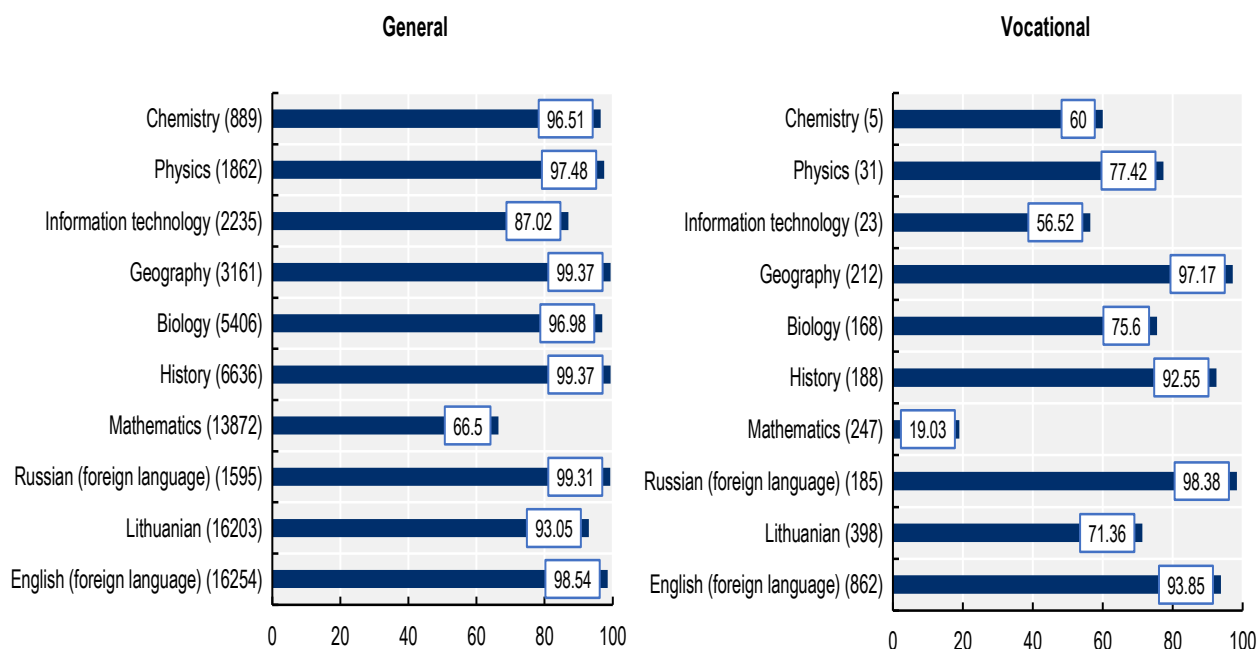
Few VET students achieve a solid basis in foundational general skills

While vocational students share the same curriculum, hours and examination as students in general upper secondary education, they perform significantly less well. In most countries, VET students tend to perform less well in general academic content, reflecting their generally lower achievement on entry into upper secondary education (OECD, 2018[2]), however the difference in Lithuania is particularly significant. According to the OECD's Survey of Adult Skills (PIAAC), 16–34 year-old graduates from upper secondary VET in Lithuania have lower literacy, numeracy and problem-solving skill levels than VET graduates in most other OECD countries. Lithuania is the only country across OECD countries where the skill levels of VET graduates are not significantly higher than those of lower secondary graduates (Vandeweyer and Verhagen, 2020[37]).

The weak learning outcomes of VET students in general subjects also emerges from the results of the different Matura examinations that both general and vocational students take. Figure 3.4 shows that the share of VET students who passed the state-level Matura examinations was lower than the share of general students for all subjects. In 2022, less than 20% of VET students passed mathematics compared to 67% of general students, and 71% passed Lithuanian compared to 93% of general students.

To some extent, these results reflect the fact that VET students tend to have lower achievement in general subjects upon entry to upper secondary education and they do not attend the advanced courses that the Matura examinations covers. However, it likely also reflects a broader misalignment between the expectations, content and the provision for VET students in general content. As a result of the significantly lower performance of VET students in general content, these students face a major disadvantage to access to tertiary education with very few – less than 2% in 2022 - meeting the requirements (Beleckienė, Kazlavickas and Palevič, 2022[11]). Comments by stakeholders during the OECD mission and evidence from previous OECD reviews (OECD, 2017[38]; OECD, 2021[6]) confirm that the teaching quality of the general education curriculum in VET institutions is relatively low. VET students' weak foundational skills might also influence their outcomes on the employment market.

Figure 3.4. Share of students who passed their national level Matura examinations by subjects and programme orientation (2022)

General

Subject	Value
Chemistry (889)	96.51
Physics (1862)	97.48
Information technology (2235)	87.02
Geography (3161)	99.37
Biology (5406)	96.98
History (6636)	99.37
Mathematics (13872)	66.5
Russian (foreign language) (1595)	99.31
Lithuanian (16203)	93.05
English (foreign language) (16254)	98.54

Vocational

Subject	Value
Chemistry (5)	60
Physics (31)	77.42
Information technology (23)	56.52
Geography (212)	97.17
Biology (168)	75.6
History (188)	92.55
Mathematics (247)	19.03
Russian (foreign language) (185)	98.38
Lithuanian (398)	71.36
English (foreign language) (862)	93.85

Note: numbers in parenthesis represent the number of students taking the exam.
Source: NSA (National Education Agency) (2022[8]), Rezultatai Brandos Egzaminai (Matura Results), Nacionalinė švietimo agentūra - » Rezultatai (smm.lt) (accessed on 2 May 2023).

StatLink https://stat.link/25ziwn

Vocational graduates are not well prepared in vocational content

While VET students internationally tend to perform less well in general subjects than general education students (OECD, 2018[2]; OECD, 2016[39]) , often reflecting both course structure and orientation systems into VET (Perico e Santos, 2023[1]), in Lithuania VET students also have poor outcomes on the labour

market. Among 25-34 year-olds with upper secondary education as their highest level of attainment in Lithuania, the employment rate of vocational graduates in 2021 was only three percentage points higher than the employment rate of general education graduates (83% and 80% respectively). In contrast, across the OECD on average, the employment rate of vocational upper secondary graduates was 10 percentage points higher than that of general upper secondary education graduates and as much as 20 points in countries with stronger VET systems such as Austria, Germany and Italy (OECD, 2022[3]).

Stakeholders, including representatives of businesses, reported to the OECD Review Team that vocational students do not receive sufficient nor specialised training at the upper secondary level. Partly as a consequence, employers report that they do not place high value on VET qualifications. The latter is likely to be one reason why VET graduates in Lithuania do not have significantly stronger labour market outcomes than their peers from general upper secondary programmes.

Compared to other OECD countries, Lithuania does not offer highly specialised VET programmes at the upper secondary level. For the first two years of their programme, students spend most of their time learning general content that is assessed in the Matura, that tests only general subjects. The VET specialised content is delivered 30% with theoretical training in school and 70% with practical training in school, in a training centre or in the workplace. Curriculum regulation requires students to spend between 110 and 220 hours in a workplace or, if it is not available, at a sectoral practical training centre. The weak outcomes in foundational skills of vocational graduates might also impact their experiences on the labour market because basic literacy and numeracy are equally important in a professional setting.

Policy options for creating valued vocational pathways through upper secondary education

The section below discusses three policy options to help Lithuania create vocational pathways of high quality that equip students with a mix of a strong general and vocational skills. As well as suggesting how more flexibility might be introduced to the existing programme it also outlines possibilities for creating two separate vocational programmes, one that is more work-based and another more school-based. By providing greater space to be tailored to students' needs and future plans, these programmes could promote better outcomes in terms of completion of upper secondary, labour market integration and future engagement with lifelong learning.

Option 2.a. Providing more flexibility in vocational education to adapt to students' needs and abilities

In Lithuania, the vocational upper secondary programme requires students to dedicate a significant amount of time to general education content and to be assessed by the same examination as general education students. The upper secondary system is comparatively prescriptive and gives students limited freedom to choose and adapt the content and format of learning to their needs, abilities and ambitions. While the curricula and examination reforms will create greater choice and flexibility these are not likely to provide the degree of differentiation that most systems provide for upper secondary students.

Providing more choice and differentiation within vocational programmes would enable Lithuania to cater more effectively to a wider range of student profiles, including both higher and lower performers and create the basis for more valuable, targeted VET programmes with better outcomes for learners. Generating better outcomes for learners as well as being able to attract a broader range of learners across the achievement spectrum would help contribute to raising perceptions of vocational education in the country. Lithuania could consider different options to give more choice and flexibility at the upper secondary level, especially to those students who struggle with general content and might thrive with a different learning approach to successfully complete upper secondary education.

Advancing current reforms to provide greater flexibility and adaptability in the content for vocational students

The introduction of the new curriculum and changes in the course requirements seems to be a positive step forward for Lithuania. The changes mean that VET students will be required to take fewer general subjects and have more choice and flexibility over the general subjects they want to study. However, it will be crucial to carefully consider how they will spend the extra time that this will create.

The additional time creates the opportunity for the VET programme to be more responsive to different student profiles. For example, for some students, the additional time might be devoted to more vocational content, or for others it might be used to provide extra support for those students who need it to cover basic skills and competences. Some possible options that Lithuania might consider include:

- Providing more support in foundational subjects. For students who are identified as struggling in core subjects, notably mathematics and Lithuanian, upon entry to upper secondary education (see Issue 1: Reviewing students' transitions and orientation into upper secondary education) or during the programme, they could be provided with additional learning time and support to ensure that these basic skills are mastered by the end of upper secondary education.
- Creating space for more work-based learning. The additional time could be used to expand work-based learning for VET students which is currently limited in Lithuania (see Option 2.b Creating a more work-based VET option that promotes acquisition of foundational skills).
- Providing deeper and broader teaching in certain subjects, notably mathematic and sciences, to enable some VET students to pass the Matura for tertiary entrance. Currently, VET students in Lithuania have very limited opportunities to pass the state Matura examinations and access tertiary education because these examinations cover more content than VET students typically cover. For those VET students who wish to enter tertiary education, the additional time could be used by enabling them to cover the same content, or attend the same classes, as general upper secondary students.

Reviewing the level of demand, and breadth and depth of learning in mathematics and Lithuanian to ensure that it aligns with the needs and future ambitions of all students

Lithuania's decision to introduce two levels in mathematics and Lithuanian for the state Matura examination and related teaching at these levels will already help to make content more accessible for a broader range of students. As part of the curriculum reform, Lithuania might also consider more explicitly the essential skills that all the country's young people should develop by the end of upper secondary education. As part of this work, Lithuania might look at how standards are articulated in other international systems and the national context, including discussions with post-secondary education providers and employers. This work might initially focus on mathematics and Lithuanian given their fundamental importance for success in work and social life.

The national consultations and review of international standards would aim to understand if the current level of demand, and depth and breadth of learning in upper secondary education accurately reflects the diverse working and learning contexts in which young people will need to use foundational skills in their future lives. In particular, are expectations in mathematics and Lithuanian set at the right level so that learners are expected to achieve basic, foundational skills, while still providing space to stretch the highest achievers? The currently weak performance of VET students in general subjects (Figure 3.4) might suggest that the learning expectations are currently set at a level which is not accessible for lower performers or that teaching does not provide sufficient support. The work to review the level of demand could be undertaken alongside the investigation of the dramatic fall in mathematics results in 2022 (see Chapter 4).

As part of undertaking this work, Lithuania might find that the current level of demand and depth of learning for mathematics and Lithuanian, even after the introduction of two levels in the Matura, does not provide enough flexibility to reflect the spectrum of learners and their future aspirations. Lithuania could consider introducing more flexible requirements in mathematics and Lithuanian so that the full cohort is able to achieve the requirements while providing space for some learners to learn and achieve at higher standards.

Many countries provide scope for students to meet requirements in foundational skills, such as literacy and numeracy, in a variety of ways. In Australian states, many Canadian provinces, New Zealand and the systems in the United Kingdom, minimum requirements that all students are expected to meet are defined and provide students with multiple opportunities to certify their competence during their upper secondary education. All these systems also provide options for students to continue to study and achieve at higher levels if they wish (Australia Education Council, 2020[40]; New Zealand Qualifications Authority, 2020[41]; UCAS, 2020[42]). Other systems offer these core subjects at multiple levels. For example, Ireland offers Irish and mathematics at three levels – Foundational, Ordinary and Higher, while Korea has four options in mathematics and schools in Japan provide six (Stronati, 2023[15]).

Any change to the content of mathematics and Lithuanian for vocational (and perhaps also general students) would need to be reflected in the Matura examinations. For example, foundational qualifications in the core skills of mathematics and Lithuanian might be provided or more levels in the Matura examination introduced. In Ireland, the end of upper secondary examination, the Leaving Certificate, is provided at three levels in Irish and three levels in mathematics (Ireland National Council for Curriculum and Assessment (NCCA), 2022[43]).

Considering the demand and content in other subjects

As well as providing support to enable students to master key skills in mathematics and Lithuanian, the country should consider whether content in all subjects is accessible for all students. One option is to consider introducing multiple levels for all or more subjects. In Sweden, for example, upper secondary students can choose courses at different levels for English, history, physical education and health, mathematics, science, knowledge of religion, civics and Swedish (Stronati, 2023[15]). Ireland offers at least two different levels for all subjects, Ordinary and Higher (Ireland National Council for Curriculum and Assessment (NCCA), 2022[43]). This can help students who find general content very demanding to achieve success and create the motivation to engage with education while developing the foundational skills that they will need for life and allow other students to pursue higher levels depending on their skills, interests and aspirations.

Another option to consider is changing the content of VET programmes so that rather than doing individual subjects, like economics or chemistry, students would do subject areas, like social sciences or sciences. Students would do less and different content than in the general programme, but they would still cover enough content to build strong bases in general skills. In France for example, the general curriculum for students enrolled in the vocational programme (*Baccalauréat professionnel)* includes subject groups such as physics-chemistry, history-geography-moral and civic education, applied arts and artistic culture, physical and sports education (Ministère de l'Éducation nationale et de la Jeunesse, 2022[44]).

Any changes in content would also have to be reflected in the state Matura examinations. Particular consideration would need to be given to how examinations taken at different levels will interact with certification of the completion of upper secondary education and eligibility for tertiary entrance. If steps are taken to introduce more composite courses in studies like social sciences or the natural sciences for VET students, then corresponding examinations would need to be developed.

Moving the Matura back to the end of the third (or fourth) year for VET students

To encourage accessibility and completion among VET students, Lithuania could consider postponing the Matura to the end of the three-year programme (or even possibly after four years if Lithuania considers the structural changes suggested to the length of vocational education suggested in this report (see Issue 1: Reviewing students' transitions and orientation into upper secondary education)). Putting the Matura examination back would give students who found the general content demanding, or entered with initially low general skills, more time to build strong foundations. For all VET students, it would give them an incentive to stay in school to complete the programme and it would increase their chances to get the marks in the Matura they need to access tertiary education.

One of the likely reasons that completion of vocational education is currently significantly lower than general education is because students achieve their upper secondary certification before the end of the vocational programme and since vocational qualifications are not well-valued on the labour market, they are able to integrate into the labour market without completing their vocational programme. Moving the Matura back to the third or fourth year of vocational programmes would require some revisions to the vocational upper secondary curriculum to allow students to keep studying general content in the third year while spreading vocational content spread throughout the three years. The Matura and the vocational examination could be recognised together in a single qualification similar to the *bac professionnel* in France (see Chapter 4). This could be implemented alongside the suggestions in Issue 1 to address the current challenges in the provision of vocational education in rural areas (see Issue 1: Reviewing students' transitions and orientation into upper secondary education).

Hungary provides an interesting example for Lithuania. In the past, it had a similar structure to Lithuania, where vocational students enrolled in a technical and academically oriented track (Box 3.2) were being prepared primarily in general content with only some vocational content for the first four years and then had to stay an extra year to achieve the vocational qualification. Since many students were leaving after the first four years, the Hungarian government consolidated it as a five-year programme, with both the general and vocational qualifications at the end of the five years.

It is important to note that Hungary also offers a shorter vocational programme (3 years), less academically oriented and more practical oriented, for those students who do not wish to continue their studies. This option promotes completion as it does not expect students to spend five years in school to receive a vocational qualification and offers more flexibility in the delivery and learning (EURYDICE (European Education Information Network), 2022[45]). Option 2.b Creating a more work-based VET option that promotes acquisition of foundational skills discusses how Lithuania could also consider creating a more work-based, perhaps shorter VET option. Evidence suggests that longer VET programmes could have a negative effect on outcomes of students who enter these programmes with low levels of skills, as it increased their probability of leaving before completion (Hall, 2012[46]).

Box 3.2. Upper secondary education in Hungary after the reforms

Diverse options in upper secondary education

In 2022, around 56% of upper secondary students were enrolled in a vocational programme in Hungary. Upper secondary education typically starts from Grade 9 in Hungary with three different programmes. Based on the VET 4.0 strategy introduced by the government in 2019, the structure of the vocational education system changed starting from 2020/2021. The previous two types of vocational schools – vocational upper secondary school and secondary vocational school – were replaced by the Technicums (*technikum*) and the Vocational schools.

- **Technicums:** The duration of the training in technical schools is five years. The new name "Technicum" is clearer and makes the programme more attractive to parents and students who tend to associate this word to high-quality vocational training. The knowledge and skills acquired in the Technicums enable graduates with good results to continue their studies in a similar sector in tertiary education. In the first two years, students are provided with sectoral knowledge, followed by two years of dual training. Then students start the final year of practical training, during which they can get an employment contract providing them with the opportunity to earn while acquiring a qualification. At the end of the five years, students take their upper secondary school leaving examination in four compulsory subjects, with the vocational examination of the technical vocational qualification as their fifth subject. If students successfully pass the exam, they receive the upper secondary school leaving certificate and the certificate of the technical qualification.

- **Vocational school**: The duration of the training in the vocational school is three years. After the first year of providing sectoral knowledge, dual training takes place in the next two years mainly within the framework of an employment contract. After graduation, the opportunity to obtain the upper secondary school leaving examination certificate or even the certificate of the technical qualification is open here as well, but students need to enrol in another two-year programme. In 2020 the length of this programme was reduced from four to three years together with the overall teaching time in class. The new structure still allows students to acquire minimum standards in general education, but it makes the programme more engaging and relevant. The aim of this reform was to help students enter more easily the labour market while making the programme more attractive and decreasing early school leaving.

Source: EURYDICE (European Education Information Network) (2022[45]), National Education Systems, https://eacea.ec.europa.eu/national-policies/eurydice/national-description_en (accessed on 1 February 2023).

Providing advice about different levels and subject choice as part of the personalised recommendation for upper secondary transitions

Increasing diversity and flexibility for students needs to be accompanied by more support to help them understand the options available and make informed choices. Evidence from PISA 2018 showed that among countries that participated in the survey, one in five young people had misaligned education and career expectations (i.e. they underestimated the levels of education typically required to secure professional or managerial positions) (Mann et al., 2020[29]). Since Lithuania is already strengthening its student guidance system advice about different programmes, Matura options and levels can be integrated to this process. As part of the personalised recommendation students get in Grade 10 to decide which upper secondary programme they want to attend (see Issue 1: Reviewing students' transitions and

orientation into upper secondary education), students should also receive information on the different specialisations, elective subjects, the level of demand for Lithuanian and mathematics and the Matura examinations they might take at the end of the two years. This advice should be based both on students' aptitudes for the subject and future ambitions.

Creating more diversity in VET programmes

Most countries that distinguish between general and vocational education offer multiple upper secondary programmes (Box 3.3). Twenty-four OECD countries distinguish between more practically oriented vocational programmes and more academically oriented vocational programmes (Stronati, 2023[15]). The former options usually offer more work-based training, are designed to provide direct entry to the labour market and might not provide direct access to tertiary education. However, these programmes typically provide access to non-tertiary post-secondary education which individuals might use as a pathway into tertiary education (Kis, forthcoming[47])). Examples include both the EUD and New apprenticeships programmes in Denmark, the vocation-specific track in Estonia and the vocational schools in Hungary (Box 3.2,Box 3.3). The more academically oriented options are designed to meet the needs of students with solid general skills and have a strong interest in technical subjects. These programmes usually give direct access to all or some tertiary options. Examples include the EUX programme in Denmark, the comprehensive track in Estonia and the *Technicums* in Hungary (Box 3.2,Box 3.3). Lithuania could consider introducing two separate upper secondary vocational programmes, one that offers a more work-based training and another one that has a more technical focus. These two options are discussed below.

Box 3.3. Diverse VET programmes in upper secondary education

Denmark

- **EUX**: is a combination of the vocational (journeyman's test) and general education programmes as it leads to a vocational qualification, and it gives access to higher education (ISCED Level 6). It was introduced in 2012 and lasts four-year or three-and-a-half-year. By 2018, 42 different technical VET fields (approximately half of all programmes) and all business programmes had implemented EUX.

- **EUD**: is the mainstream vocational path involving apprenticeship. EUD leads to a journeyman's test or a similar examination testing vocational knowledge, skills and competences. The programme duration is 4 years for students who completed lower secondary school less than two years ago and 3.5 years for students who finished their lower secondary education more than 2 years ago. The first phase of the programme, the" basic programme", involves education and training in schools. In the second phase, the "main programme", students enter apprenticeship, spending most of their time training in companies but with some further education and training in schools. EUD graduates can continue their education at professional academies in fields related to their EUD qualification (at ISCED Level 5). They do not have direct access to programmes at ISCED level 6.

- **New Apprenticeships**: provide students with an opportunity of alternating school and work-based learning from day one. This can be attractive to students who prefer more applied learning. After a year in the enterprise, students on the New Apprenticeship scheme are assessed to check if they have the required competences, and if they are ready to continue their programme alongside mainstream apprentices (from EUD/EUV). New apprenticeships and EUD/EUV lead to the same qualifications.

Estonia

- **Comprehensive track:** This is a 3-year programme of which at least 35 percent is practical training including both school workshops and work placements. Graduates receive both a qualification of completion of upper secondary education and an occupational qualification following separate examinations. Programme completers who in addition pass a state examination can also enter higher education, and an optional further year in school is available to prepare for this examination. Students can also select more general education subjects during their studies to prepare for the State examination.

- **Vocation-specific track:** This is a 2.5-year programme including both vocational and general education. At least 50 percent of the programme is practical training including both school workshops and work placements. Graduates receive both a certificate confirming the completion of the programme (which is different from upper secondary qualification that can be obtained in the comprehensive VET track) and a vocational qualification following separate examinations. They can continue into upper secondary general education or further vocational programmes (but not tertiary education).

Source: CEDEFOP (2018[48]), Vocational education and training in Europe: Denmark. VET in Europe Reports, Vocational_Education_Training_Europe_Denmark_2018_Cedefop_ReferNet.pdf (europa.eu); Danske Erhvervsskoler og -Gymnasier (2021[49]), Elever på eux,, Elever på eux | Danske Erhvervsskoler og -Gymnasier (deg.dk); Ministry of Children and Education (2023[50]), Overview of vocational education and training, Overblik over erhvervsuddannelser | Børne– og Undervisningsministeriet (uvm.dk); Statistics Denmark (2023[51]), Upper secondary education, Upper secondary education - Statistics Denmark (dst.dk); Cedefop (2019[52]), Vocational Education and Training in Europe: Estonia, cedefop.europa.eu/en/print/pdf/node/30788.

Option 2.b Creating a more work-based VET option that promotes acquisition of foundational skills

Upper secondary education is the last opportunity within formal schooling to ensure that young people acquire the necessary knowledge and skills that they will need throughout their lives (OECD, 2015[16]). It is a government responsibility to support all students to build these skills before they leave school. As they are entering upper secondary education, PISA shows that around 25% of students in Lithuania do not reach the minimum level of proficiency in reading, mathematics and science (OECD, 2018[2]). Results from PIAAC suggests that upper secondary education does not manage to close this skills gap for all students, with upper secondary completion making the smallest contribution to young adult's skills across participating countries. Results show that 16–24 year-olds who completed upper secondary education in Lithuania scored just 14 points higher in literacy than their peers who did not, compared to 42 on average across OECD countries (OECD, 2016[39]). Young VET graduates in Lithuania performed only one point higher than those who did not complete upper secondary education, in both literacy and numeracy (see Chapter 2).

To make good progress in their learning, all learners need to receive appropriate support and be able to engage with content that is accessible for their individual level. To respond to growing concerns about students' low level of skills in Lithuania and strengthen their opportunities to acquire specialised vocational skills, the country could consider introducing a more practically and work-based VET option. This option would aim to build solid basic general skills while preparing students with highly specialised training to join the labour market.

Introducing a new vocational option with more work-based learning

Programmes including work placements have been widely recognised as an effective means of equipping individuals with both generic and job relevant skills by combining learning and work (OECD, 2010[53]). Evidence shows the growing labour market importance of transversal skills (Deming and Kahn, 2018[54]). It also suggests that many transversal skills are more effectively learnt in workplaces than in classrooms (OECD, 2010[53]). Moreover, VET graduates who have been more exposed to work-based learning (WBL) have stronger labour market outcomes than those without it (Bratberg and Nilsen, 1998[55]; Van der Klaauw, Van Vuuren and Berkhout, 2004[56]).

In Lithuania, the highest employment rates of vocational graduates are among those who were already employed while completing a VET qualification (Beleckienė, Kazlavickas and Palevič, 2022[11]). In 2016, Lithuania's vocational graduates (16-34 years old) who completed a traineeship during their studies had much higher employment (78%) than their counterparts with no work experience (65%). However, work-based learning (WBL) is limited in Lithuania, with students only required to complete 110-220 hours in either a company (as an unpaid traineeship) or a school-based workshop simulating working conditions (CEDEFOP, 2019[57]). Almost 30% of upper secondary VET graduates (15-34 years old) in 2016 reported that they had undertaken no work experience during their studies (Musset, 2019[58]).

A new VET programme with more work-based learning could provide more space for WBL in Lithuania and expand the existing apprenticeship provision. In the current system, apprenticeships have a role in reducing unemployment among adults, but they are not advertised or encouraged among younger people who might equally benefit from them (OECD, 2021[6]). Many OECD countries offer these types of programmes at the upper secondary level. Since 2007 in Estonia, VET programmes can also be offered as apprenticeships, with at least two-thirds of the programme being devoted to work-based learning. Usually the school, enterprise and apprentice sign a contract that includes an individualised curriculum specifying the learning outcomes. In order to complete the programme, students need to pass a professional or vocational examination. In 2017 there were about 1300 apprentices, 700 more compared to the previous year (Musset, Field and Mann, 2019[33]). Since 2011 in Sweden, students in vocational programmes can attend a mainly 'school-based education' or 'apprenticeship education'. The content,

qualification and goals of the two paths are the same. In school-based VET programmes, students are required to do a work placement of at least 15 weeks. In apprenticeship, students should spend at least half of their learning time in the workplace (Kuczera and Jeon, 2019[12]).

In Lithuania, the introduction of a new VET programme, where WBL presents a more significant portion of the programme would complement school-based learning by enabling students to develop professional skills and transversal skills such as teamwork, communication and negotiation that are particularly difficult to develop in the classroom (OECD, 2012[59]). Lithuania could look at other countries, such as Denmark and Estonia (Box 3.3), to design a programme that gives the same qualification as the other VET option but that includes more work-based learning and perhaps the option to complete the programme as an apprenticeship.

Supporting employers to engage with apprenticeships

Despite efforts, Lithuania does not yet have a strong apprenticeships system. The country's current goal is reaching 40 000 apprenticeships by 2026. Financial barriers for employers have been identified as the main obstacle for implementing successful and popular apprenticeships (OECD, 2021[6]). Following OECD's previous recommendations, Lithuania has decided to invest EUR 90 million until 2026 to provide employers and apprentices with financial incentives. Additionally, Lithuania announced in March 2023 the launch of a national initiative called "The apprenticeship – a new opportunity for me!" that aims to increase the attractiveness of VET by encouraging students to take part in apprenticeship. The funding of the project, consisting of over EUR 10 million, were allocated from the EU funds for Economic Recovery and Resilience Facility. The goal is to provide support for 3866 apprentices, who have been accepted to study in full formal initial or continuing VET programmes, to train in companies for up to 9 months. (CEDEFOP, 2023[60]).

Other challenges to apprenticeships in Lithuania include the absence of non-financial incentives to encourage apprenticeships among the many micro-sized firms. These could include measures to help employers make better use of apprentices, such as the provision of training for apprentice instructors, offering support materials to firms to help them develop their training skills, and facilitating networking among employers (OECD, 2017[38]; OECD, 2021[6]). Many other OECD countries offer a range of financial and non-financial incentives to employers to offer apprenticeships. Norway for example, offers a direct subsidy per apprentice depending on their characteristics (such as age, disability, school performance, migration status, gender, previous education) and sector characteristics. The Norwegian Directorate for Education also provides free resources for apprentice instructors on their website, including short films showing how instruction can be carried out in practice. Apprenticeship training agencies support small and medium-sized enterprises (SMEs) to hire apprentices as they establish new apprenticeship places, supervise companies with apprentices, train staff involved in the instruction of apprentices and organise the administrative tasks related to being a training company (Kuczera, 2017[61]). Lithuania might consider how such non-financial incentives and supports could be provided to employers, especially SMEs. The Qualifications and VET Development Centre (QVETDC or KPMPC) in Lithuania has recently launched a website for promoting apprenticeship to companies and VET providers (KPMPC, 2023[62]).

Finally in Lithuania, greater involvement of industry in teaching and training in vocational schools could help students to acquire industry-relevant skills. This could include recruiting industry professionals on a part- or full-time basis to teach in VET programmes (OECD, 2017[38]; OECD, 2021[63]). Since students from rural areas face a disadvantage in accessing sectoral practical training centres, Lithuania could increase subsidised transport for VET students in rural areas to access sectoral practical training centres, particularly if they are unable to find work placements (OECD, 2017[38]; OECD, 2021[6]).

While a new VET programme that is more work-based will provide more space for professional learning, sufficient time will still need to be devoted to general skills. General skills are important for employability in the short and long term and young people's ability to engage with learning and career changes throughout their lives (Vandeweyer and Verhagen, 2020[37]). A well-qualified electrician for example needs to be familiar with basic mathematical and physical laws. Moreover, strong foundational skills can help students in accessing further education and training. General education does not necessarily require classroom settings and can take place in informal environments and the workplace (Kuczera and Field, 2018[64]).

Most countries that provide work-based vocational upper secondary programmes provide a strong basis in foundational skills (Stronati, 2023[15]). In Hungary, students enrolled in vocational schools (3-years-programme) dedicate 17 hours per week to general education in the first year, and then 7 hours per week in the last two years. This time is divided among subjects such as Hungarian, a foreign language, mathematics, sciences, social sciences sports and economics (Eurydice, 2023[65]). Lithuania could draw on the examples of other countries that already have similar programmes, as well as national consultations with teachers, curriculum experts, tertiary and non-tertiary education providers and employers to determine the content and range of general skills that would be most appropriate for a work-based VET programme in Lithuania.

As well as ensuring that learning expectations in key subjects are accessible and reflect national demands, Lithuania will need to ensure that all learners are given sufficient support to reach these requirements. This will likely involve providing different levels of support at different points and tailoring it to student needs. Option 1.a. Making personalised transition recommendations for each student based on a wide range of information discussed ways in which the existing programme could be adapted to provide more support for those students who need it. The creation of a specific VET programme with a more work-based focus would provide more opportunities to develop an approach tailored to student needs. In Sweden, young people with weak skills in key national subjects on entry to upper secondary education receive specialised support through national Introductory Programmes (Kuczera and Jeon, 2019[12]). Sweden's experience underlines the importance of carefully considering the delivery of such support to avoid creating stigma for students with low achievement which might hinder effective engagement with such support. Communication and discussion around such learning programmes might focus on encouraging all teachers, students and their guardians to recognise and respect the diversity of students' learning and development trajectories and an education system's responsibility to provide multiple opportunities for learners to acquire basic skills. Careful thought will also need to go into how such programmes are provided. Rather than bringing together students with low achievement in a separate programme, a more flexible approach where students might attend additional hours of support to complement their normal learning hours might be effective.

Consideration should also be given to how skills are taught. Some students might have chosen the vocational track because of negative experiences within a standard school-based setting. These students might be demotivated by a curriculum with a substantial school-based academic component and traditional approach (Vandeweyer and Verhagen, 2020[37]). The new work-based VET programme might incorporate different pedagogical approaches that are inclusive for a diversity of learners, such as greater integration of applied and theoretical aspects of learning and opportunities to access concepts through a range of learning approaches. In England for example, young people who have not achieved their initial upper secondary qualifications - GCSEs - in mathematics or English can take functional skills courses, more focused on real work application for skills (UCAS, 2020[42]).

In some OECD countries that offer more than one programme in upper secondary education and set similar requirements for completion for general and vocational students, such as France, Germany, Italy, the Netherlands, the general content is adapted to different VET programmes. In the Netherlands, for example, students in the general programme learn Dutch language and literature, while those in the vocational

programme focus on literacy skills (EURYDICE (European Education Information Network), 2022[45]). In Italy, where English is a compulsory subject for all students, in general education it entails learning the language, the culture and the literature while in vocational programmes the focus is on learning the language and the vocabulary associated with the programme's professional specialisation (MIUR, 2018[66]). Lithuania might consider implementing this approach progressively, starting first with mathematics and Lithuanian, as they will have to do this to make it accessible for all students (see Option 2.a. Providing more flexibility in vocational education to adapt to students' needs and abilities), and then expanding the approach into other general subjects. This approach would require specific supports, resources and notably professional development for VET teachers (see Issue 3: Designing pathways with clear and sequential progression out of upper secondary education).

Option 2.c. Providing a technically focused and a more academically oriented vocational upper secondary option

In Lithuania, students with strong or average school performance, who are considering pursuing post-secondary education and have an interest in technical subjects, do not have an incentive to enrol in vocational education. The VET programme requires that they stay in school for an additional year after passing the Matura to get a qualification that is not highly valued in the labour market. Additionally, accessing tertiary education is next to impossible for VET students to access as the VET programme does not expose them to the content that is assessed in the state Matura. Providing a more technically focused and academically oriented vocational option could help meet the needs and ambitions of these students and provide a more tightly focused and tailored programme so that learners are better prepared to continue education or enter the labour market.

Providing stronger preparation in technically focused VET

Lithuania could introduce a more technically oriented vocational option to improve the attractiveness of VET and meet the needs of different students. This new option would provide a stream of graduates with strong general and technical skills ready to enter higher VET programmes (colleges or the new ISCED-5 programmes) and to specialise in Science, Technology, Engineering and Mathematics (STEM). This option might require students to meet specific standards in general subjects, such as mathematics, related to the specialisation they choose. Denmark for example, launched a reform of the VET system in 2015 that included increasing performance requirements in Danish and mathematics to gain access to vocational schools (CEDEFOP, 2018[48]). Setting standards for entry into VET ensures that students have the required skills to be successful in the programme while helping improving the perception of vocational education. Rather than setting a specific numerical threshold based on student achievement for entry to the more school-based VET, guidance counsellors might inform students with solid foundational skills about the merits of this more programme as part of the process of developing a personalised recommendation for each student at the end of Grade 10 (see Option 1.a. Making personalised transition recommendations for each student based on a wide range of information).

As well as the need to meet current and forecasted gaps in the labour market (see Chapter 2), national data also shows the need to increase VET enrolment in fields of increasing strategic importance for Lithuania such as environmental protection and information communication technologies (ICT) (OECD, 2021[6]). While this more school-based VET programme would provide a solid basis in general skills, sufficient time in work-based learning will also be important. Lithuania could consider implementing a structure similar to the EUD programmes in Denmark or the *Technicums* in Hungary where students first focus on building strong general and technical skills and then build on them with theoretical training in school and practical training with employers (Box 3.2,Box 3.3). This dual structure would require Lithuania to develop strong partnerships with employers and specific industries to guarantee students good

placements and effective training during their work-based learning (see Option 2.b Creating a more work-based VET option that promotes acquisition of foundational skills).

Since in some rural areas there are few vocational schools, Lithuania could consider delivering this technical/vocational option jointly with general schools, at least for the beginning of the programme when students are still young to avoid that they must move away from home (see Option 1.c. Reconsidering the structure of schooling to facilitate transitions into upper secondary education).

Ensuring that general content promotes strong technical skills

Currently in Lithuania, it is very challenging for VET students to pass the state-level Matura examinations (Figure 3.4). The Level B subjects that VET students take in general education put them at a distinct disadvantage in the state level examinations (which tend to be based on content in the level A courses). The introduction of a more school-based vocational programme could provide the space and flexibility to provide deeper and broader content in technical general subjects, especially in mathematics, sciences and ICT where few VET students currently pass the Matura (Figure 3.4).

This new VET option could include adapted pedagogy to focus on technical skills. In developing this new programme, Lithuania might be inspired by the new *Technicums* in Hungary which provide a high-quality vocational programme that incorporate a strong basis in general skills (Box 3.2). Similarly in Italy, technical schools offer vocational preparation in 11 areas, such as information and communications technology, tourism, agri-food system, fashion, sustainable mobility, energy efficiency, across the economic sector and technological sectors. At the end of the programme, students take the State examination with two parts. The first part is common to the three upper secondary programmes and the second part is specific for each programme (CEDEFOP, 2019[67]).

Issue 3: Designing pathways with clear and sequential progression out of upper secondary education

One of the reasons why vocational education in Lithuania is not attractive to young people is that it does not offer strong pathways into either employment or further education. National data shows that the share of learners who have acquired upper secondary vocational education and continued studying at higher levels is decreasing, falling from 36% in 2014 to 17% in 2021 (Beleckienė, Kazlavickas and Palevič, 2022[11]). While the VET programme gives access to tertiary education, VET students face a disadvantage in accessing it. Entrance into tertiary programmes (including universities of applied sciences/colleges which are more vocationally oriented) is almost entirely based on the grade from the Matura state-level examinations. Few vocational students take these examinations and those that do tend to perform poorly compared to general students, as they dedicate less time to general content (NSA (National Education Agency), 2022[19]). Similarly, VET does not seem to give a significant advantage in entering the labour market compared to general education: among young people with upper secondary education as their highest level of attainment, the shares of employed vocational and general upper secondary graduates in 2021 were almost the same (83% for vocational graduates and 80% for general graduates) (OECD, 2022[3]). This is probably related to the low quality of the vocational programmes at upper secondary level which are not highly specialised and provide limited work-based learning and weak preparation in general content and in skills, such as communication and independent working (see Issue 2: Creating valued vocational pathways through upper secondary education).

In order to make vocational education a more attractive option to students, Lithuania could consider building clear options for progression out of upper secondary vocational education into further education by rewarding vocational qualifications for entrance into post-secondary vocational programmes (particularly at the new ISCED 5 level) and by building sequential programmes at ISCED levels 4 and 5

that allow students to build upon their qualifications and enhance their technical skills. At the same time, Lithuania will also need to consider improvements to the quality of upper secondary vocational education to ensure that its value is recognised by employers, creating a clear pathway for specialists to enter the labour market with strong VET skills. To do so, Lithuania could consider: 1) ensuring that vocational teachers receive high-quality and specific initial and continuous professional training; 2) attracting new and highly skilled teachers in VET schools; 3) increasing the involvement of employers in VET programmes; and 4) putting in place quality assurance mechanisms to monitor and collect data on the quality of work-based learning (WBL) and vocational programmes. These measures will need to be considered alongside suggestions to revisit the content of the vocational programmes to provide students with stronger foundations in both general and technical skills (see Issue 2: Creating valued vocational pathways through upper secondary education).

The current context of progression pathways out of upper secondary education in Lithuania

Access to tertiary education is open to all upper secondary graduates

After completion of upper secondary education, around half of the students in Lithuania enrol in tertiary education in Lithuania. In 2020, 50% of 20-year-olds were enrolled in tertiary education, compared to the OECD average of 39%. In the same year the rate of tertiary attainment among 25–34 year-olds was 58%, well above the OECD average of 47%. In Lithuania – as in around a third of OECD countries– almost all upper secondary graduates can access all tertiary programmes at ISCED Level 6 (Kis, forthcoming[47]). All learners in upper secondary in Lithuania can theoretically take the state Matura which enables them to access upper secondary education. Upon completion of upper secondary education, 94.1% of vocational upper secondary students in Lithuania have direct access to tertiary education, compared to the average of 73.7% across the OECD (Figure 3.5).

Figure 3.5. Distribution of students enrolled in upper secondary vocational education by type of vocational programme (2020)
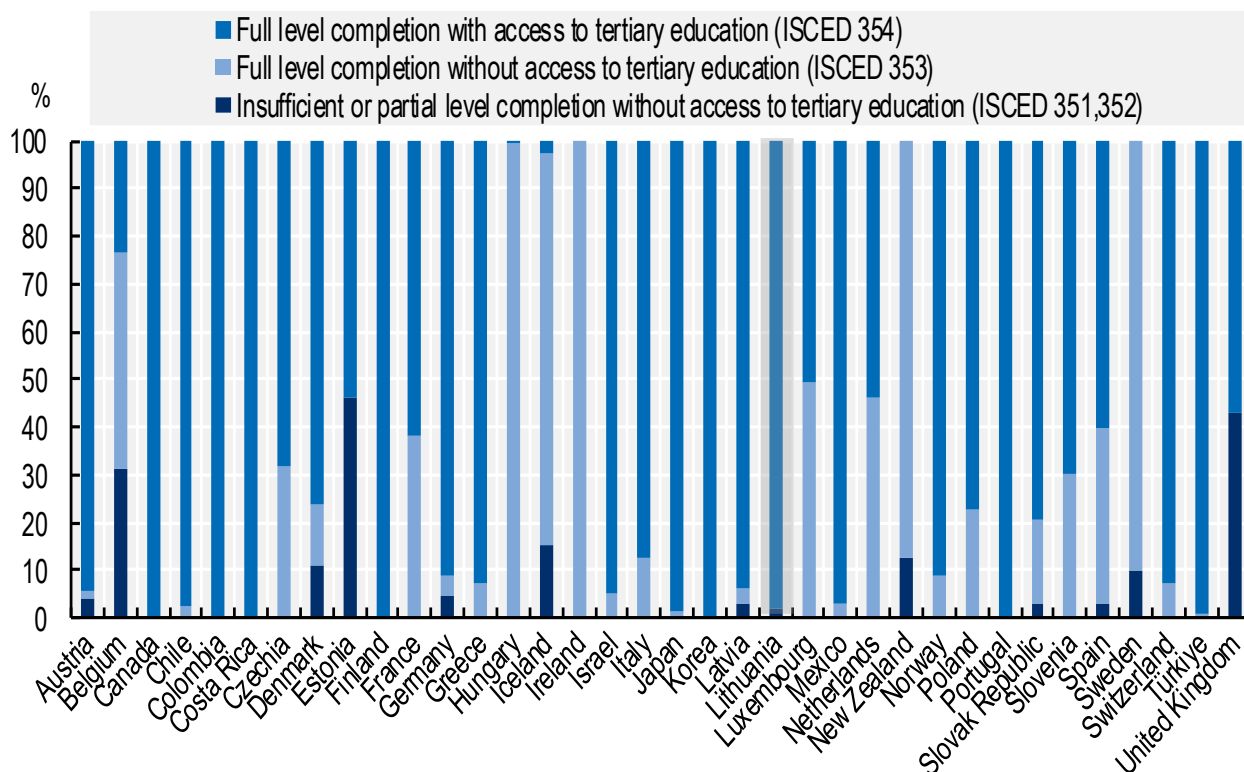
Notes: Vocational programmes sufficient for level completion, with eligibility to tertiary (ISCED 354) include all vocational programmes insufficient for level completion, without direct access to tertiary education (ISCED 351).

Countries are ranked in descending order of the share of students' enrolment in upper secondary vocational programmes sufficient for level completion, with eligibility to tertiary education (ISCED 354).

Source: OECD (2022[3]), *Education at a Glance 2022: OECD Indicators*, https://doi.org/10.1787/3197152b-en.

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Until recently, selection into tertiary education was very difficult for upper secondary vocational students

Until 2022, students in Lithuania wishing to apply to tertiary education followed the same procedure for both bachelor's degrees provided in universities (ISECD 6) and vocationally oriented programmes provided in colleges (ISCED 5). If students wanted to be eligible for tertiary education, they were required to take state-level Matura examinations in at least three subjects, including Lithuanian and mathematics. However, vocational students typically opted for B-level courses which covered less content than the A-level courses that the state Matura examinations are based on. This choice reflected the fewer hours of general content that vocational students were required to take and the need to leave space for vocational content. However, compared to their peers enrolled in general education, it put them at a disadvantage for entering tertiary education. The high bar set by these requirements for vocational students to enter tertiary education was likely the central reason why very few vocational students used the pathway from vocational education into tertiary education. While the pathway was technically open, in practice it would have required additional learning time outside normal school hours to cover the examination content (see Chapter 4). In 2022,

57.8% of all general graduates in Lithuania entered a university or college, compared to only 1.7% of all upper secondary VET graduates (Table 3.3). More general students attempted to enter tertiary education, but the chances of admission were lower for vocational students, with five out of ten vocational students admitted, compared to almost nine out of ten general students.

Table 3.3. Share of students who attempted to enter tertiary education and succeeded by programme orientation (2022)
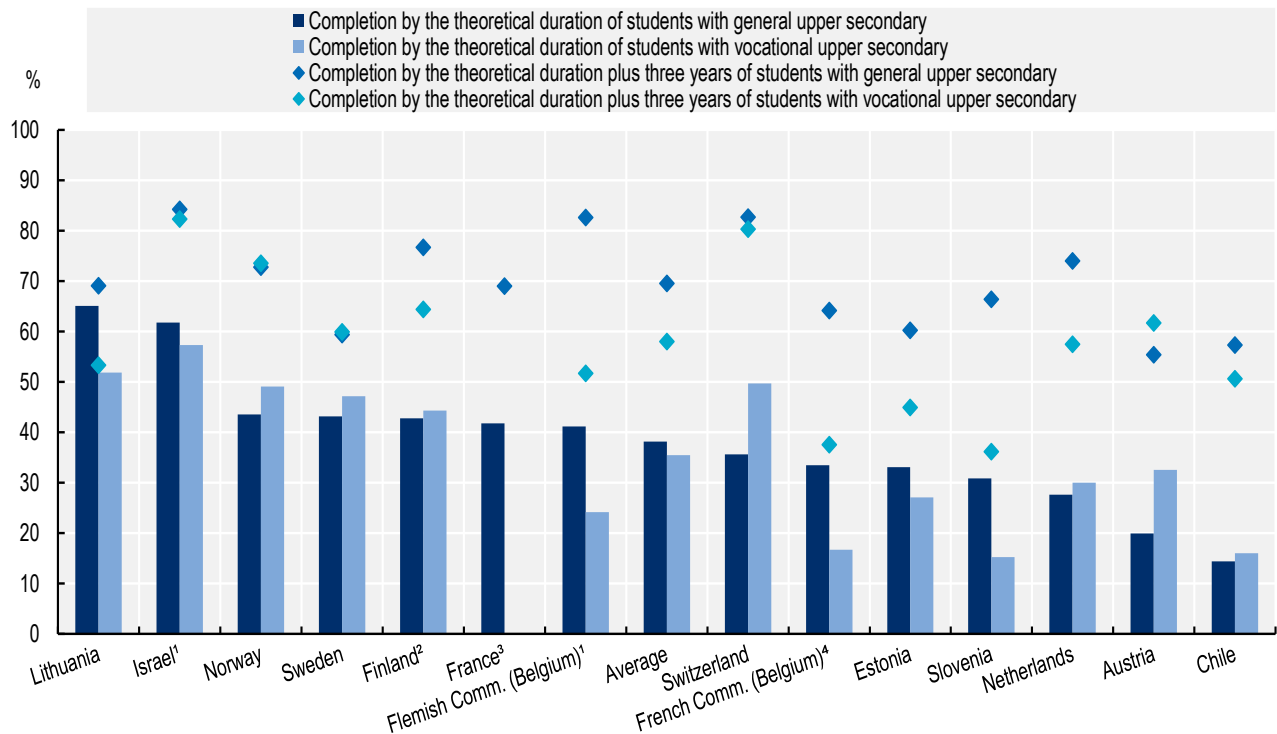
	Upper secondary general graduates	Upper secondary vocational graduates
Attempted to enter tertiary education	66.9%	3.2%
Succeeded	57.8%	1.7%

Note: All shares refer to the total of general or vocational graduates.
Source: Beleckienė, Giedrė; Kazlavickas, Liutauras; Palevič, Mariuš (2022[11]), Vocational Education and Training in Lithuania 2021, Government Strategic Analysis Center (STRATA), https://strata.gov.lt/wp-content/uploads/2022/09/PMBA2021_EN_web.pdf.

Additionally, once upper secondary VET graduates enter tertiary education, they struggle to complete their studies compared to general graduates. Lithuania has the widest gap between vocational and general graduates in completion of tertiary education, with a difference of 13 percentage points, compared to 3 percentage points on average across OECD countries that provided the data (Figure 3.6). However, tertiary education completion rates by the theoretical duration of the programme in Lithuania are the highest for both general and vocational graduates, except for VET graduates in Israel.

Figure 3.6. Completion rate of full-time students who entered a bachelor's or equivalent programme, by students' upper secondary programme orientation (2017)

Notes: 1. Completion rate of students who entered a bachelor's programme does not include students who transferred to and graduated from short-cycle programmes. 2. If the student has completed both upper secondary general and vocational education or if the data on previous education is missing, the student is reported under upper secondary vocational. 3. Year of reference differs from 2017. Refer to the source table for details. Data on students from vocational upper secondary programmes have been withdrawn due to small sample size. 4. Data refer only to the *hautes écoles* (HE) and the *écoles des arts* (ESA), representing about 60% of entrants to bachelor's or equivalent programmes.
Countries and economies are ranked in descending order of completion rate by the theoretical duration of students with general upper secondary education.
Source: OECD (2019[68]), *Education at a Glance 2019: OECD Indicators*, Figure B5.2. https://doi.org/10.1787/f8d7880d-en.

In 2018, Lithuania decided to introduce short-cycle programmes (ISCED 5) at the tertiary level provided jointly by vocational schools and colleges (EURYDICE (European Education Information Network), 2022[45]). However, the provision of such programmes did not start until the academic year 2022/2023, as it was challenging for Lithuanian institutions to develop and implement a distinctive programme at this level and to attract students (OECD, 2023[69]). Since 2023, for the first time, the upper secondary vocational qualification will be required for entry into tertiary education, and work experience will be recognised. While grades from the A-level subjects and state-level Matura examinations will still be a requirement, grades from the B-level subjects and from the school level examinations will be considered for entry into ISCED 5 programmes. Students will also be required to pass the vocational examination and hold a vocational qualification. General graduates will no longer have direct access and will need to obtain an ISCED 4 qualification in order to enter an ISCED 5 programme. Also, professional experience will count for the first time, but only if it is relevant and lasted at least one year.

There is no clear difference and interaction between upper secondary (ISCED 3) and post-secondary (ISCED 4) VET programmes

Building clear progression pathways for VET students is a fundamental step to improve their outcomes and the attractiveness of vocational education. Lithuania has already made an effort to improve vocational pathways, since it has recently introduced programmes at ISCED level 5. However, there are still significant challenges in the design and implementation of these programmes, as stakeholders also mentioned to the OECD team. Access to tertiary education for graduates from vocational post-secondary non-tertiary (ISCED 4) programmes is better than for those from vocational upper secondary programmes (ISCED 3): 41.3% of graduates from ISCED 4 programmes entered a tertiary programme in 2021 (Beleckienė, Kazlavickas and Palevič, 2022[11]). This result is surprising because there is no clear distinction between these two programmes. The main difference between graduates from ISCED 3 and ISCED 4 programmes is the place where graduates acquired upper secondary education. For ISCED 3 programmes, students attended a VET institution; for ISCED 4 programmes, students attended a general school and then moved to a VET institution, seeking a further qualification after having completed upper secondary education.

Upper secondary vocational qualifications do not provide an advantage in entering the labour market

Currently in Lithuania, the upper secondary vocational qualification does not give young people a significant advantage in entering the labour market. Unlike in most OECD countries, among young people with upper secondary education as their highest level of attainment, the employment rate of vocational graduates in 2021 was 83%, only 3 percentage points higher than the 80% employment rate of general graduates (Figure 3.7). In contrast, on average across the OECD, the employment rate of vocational graduates was 10 percentage points higher than that of general graduates and as much as 20 percentage points higher in countries with stronger VET systems, such as Austria, Germany and Italy (OECD, 2022[3]).

Outcomes of post-secondary non-tertiary (ISCED 4) graduates are lower than those of all upper secondary graduates, and Lithuania is one of only three OECD countries where post-secondary non-tertiary graduates have lower employment outcomes than general upper secondary graduates (Figure 3.7). National data shows that the employment rate of graduates from the ISCED 5 programmes in 2021 (63.4%) was 8.1 percentage points higher than that of upper secondary vocational graduates (Beleckienė, Kazlavickas and Palevič, 2022[11]).

Figure 3.7. Employment rates of 25–34 year-olds, by educational attainment and programme orientation (2021)
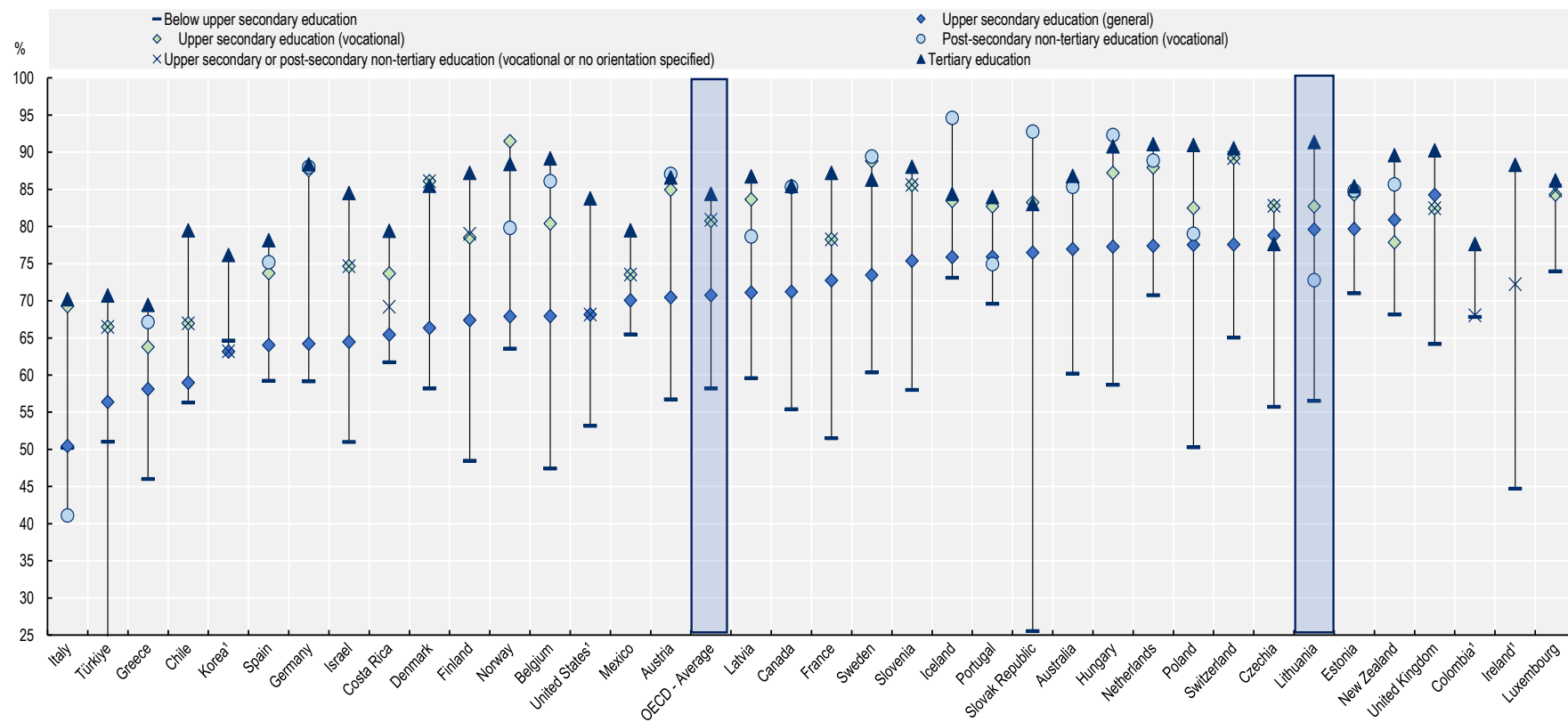
Notes: 1. Data on upper secondary or post-secondary non-tertiary education are not available for vocational education. When data on students who attained post-secondary non-tertiary vocational education are not available, joint data on students who attained upper secondary or post-secondary non-tertiary vocational education are used. *Countries are ranked in ascending order of the employment rate of 25–34 year-olds who attained general upper secondary education.*

Source: OECD (2022[3]), Education at a Glance 2022: OECD Indicators, https://doi.org/10.1787/3197152b-en.

VET teachers receive little training and few incentives

Recent analyses show that the need for a more capable and empowered teaching workforce has been a persistent challenge in Lithuania for decades (OECD, 2017[38]; OECD, 2021[6]). Two types of teachers work in vocational schools: general teachers, who can work in both general and vocational schools at the same time, and vocational teachers, who work exclusively in VET schools (OECD, 2017[38]). General teachers usually represent a minority in VET schools, around 30% of the total workforce (Vaitkut, 2016[70]). All teachers are required to have a tertiary education and a teacher qualification, regardless of which subject they teach. However, vocational teachers can also qualify by completing upper secondary education and vocational qualification, three years of work experience in their occupational area, and a 120-hour course on teaching and psychology delivered by accredited teacher development institutions within the first year of their teaching activity (Shewbridge et al., 2016[71]).

Initial teacher education (ITE) and continuous professional development (CPD) are regulated by the Ministry of Education and Science (MoES) with the aim of ensuring quality in vocational provision. All teachers are required to take continuing professional development and have at least five days a year to dedicate to it. VET schools are responsible for organising continuous vocational training and can use school funding for it. While almost all vocational teachers in Lithuania have a professional qualification in their area of specialisation, more than 40% have no prior relevant work experience (Vaitkut, 2016[70]), and about 30% of vocational teachers in 2015-16 lacked a pedagogical qualification (OECD, 2017[38]). While there is universal participation in professional development, 43% of teachers reported a lack of relevant training, compared to the OECD average of 38% (OECD, 2021[6]).

VET spending allocated to improving teacher qualifications has been reduced from 0.23% in 2017 to 0.15% in 2020 (Beleckienė, Kazlavickas and Palevič, 2022[11]). At the same time, more than half of all teachers in Lithuania in 2021 were aged 50 or above, making it more challenging for them to adjust to the changes in curricula and to new demands, such as the use of digital technologies (OECD, 2021[6]). The older age profile of teachers in Lithuania, compared to other OECD countries, reflects the limited attractiveness of a teaching career for youth and working professionals. This limited attractiveness of teaching also reflects broader challenges including reduced salaries (with the demographic trends and declining student numbers causing pressures on the school network and lower salaries for teachers), lack of support and limited opportunities for career progression incentives to excel. (OECD, 2021[6]).

The involvement of employers in VET programmes is weak

In Lithuania, employer and business associations engage in supporting school-based vocational education programmes by participating in the boards of VET schools, collaborating in the development of qualifications, and by participating in the assessment of VET students (OECD, 2017[38]). However, in practice the involvement of employers in the governance of VET institutions is lower than stipulated in national regulations. In 2018, employers were involved in the governance of only 15 out of 70 VET schools in Lithuania (Cedefop, 2019[72]; National Audit Office of the Republic of Lithuania, 2020[73]). While Lithuania established a network of 42 sectoral practical training centres in 2015 with the goal of raising the attractiveness of VET and improving the quality of practical training of VET students and teachers, employers' engagement in the training centres has been limited (National Audit Office of the Republic of Lithuania, 2020[73]). Stakeholders representing businesses also reported that the VET curriculum is not updated often enough to keep up with changes in the labour market and is not sufficiently driven by fast-changing business requirements (OECD, 2021[6]). Finally, industry professionals are not highly engaged in the teaching process in VET schools, although this could help students learn more about the latest practices and technology (OECD, 2021[6]).

The quality assurance system in VET is not strong

In Lithuania, the Qualifications and Vocational Education and Training Development Centre (KPMPC) is responsible for the development of standards and quality assurance of VET qualifications (OECD, 2017[38]). KPMPC is responsible for external quality assurance and establishes the procedures for development, modification, evaluation and validation of formal vocational training programmes for VET. While VET institutions are required to develop their own internal quality assurance mechanisms and self-evaluate, KPMPC provides methodological support in this regard. KPMPC has also developed mechanisms to support the ex-post monitoring of learning outcomes of formal vocational education through a set of questionnaires designed to measure the satisfaction of students, teachers, graduates and employers (KPMPC, 2020[74]). In contrast, general schools undergo external evaluations. The current arrangement means that there is no monitoring, internal or external, of the general teaching and learning in vocational schools.

Since Lithuania lacks a system and a consistent approach across vocational institutions to monitor the quality of school-based and work-based VET learning and collect data, it is challenging for policy makers to ensure that funds and policies in VET are directed effectively and efficiently (OECD, 2021[6]). The new compulsory state level examinations will provide some reliable and comparable information on the preparation of students on general subjects, but there will be no information on the level of preparedness in vocational education.

Policy options for designing pathways with clear and sequential progression out of upper secondary education

Granting direct access to tertiary education for all students that complete upper secondary education might, in principle help improve the attractiveness of vocational programmes as many students value the fact that they can keep many options open for the future when transitioning into upper secondary education (Kuczera and Jeon, 2019[12]). However, direct access on its own does not guarantee an easily accessible route to tertiary education for upper secondary vocational graduates (Kis, forthcoming[47]), as they might face additional requirements or struggle to complete their studies after entering. The following section discusses two policy options to help Lithuania create pathways out of upper secondary education and support VET graduates in the transition to higher levels of education and the labour market. It first discusses the importance of ensuring clear and sequential progression in VET by rewarding vocational qualifications and offering opportunities to build on previous studies or strengthen specific skills to meet entry requirements. It then explores options to improve the quality of vocational programmes to ensure that their value is recognised by employers. These options include ensuring vocational teachers receive high-quality training, attracting new and highly skilled teachers in VET schools, increasing the involvement of employers in VET programmes and implementing quality assurance mechanisms.

Option 3.a. Ensuring clear and diverse options of progression from upper secondary vocational education into further education

Providing upper secondary vocational graduates with pathways into both post-secondary education (including tertiary education) and high-quality employment helps to ensure that young people are able to access a range of valued options and to improve the perception of VET. While VET programmes are often mainly designed for direct entrance into the labour market, in many countries they also provide a route into higher levels of education, including post-secondary programmes leading to highly paid jobs (Kuczera and Jeon, 2019[12]). In Lithuania, since the employment rates for VET graduates in 2021 were 9 percentage points lower than for tertiary graduates (one of the largest differences among OECD countries) (OECD, 2022[3]), it is important to enable VET students to access higher levels of education, if they want to.

Even if all students in Lithuania have direct access to tertiary education, less than 2% of VET students transition to tertiary education (Beleckienė, Kazlavickas and Palevič, 2022[11]). This is explained, on the one hand by the fact that the admission mechanisms of tertiary institutions are based almost entirely on the Matura results, and on the other hand, by the lack of clear options for progression and alternative options to build upon previous studies and meet requirements. It is important to keep VET separate from general education and help it to develop a distinctive identity and ethos, so that it is not simply judged by the values of the academic track (Raffe et al., 2001[36]). Lithuania could consider rewarding more vocational qualifications and work experience in the process of admission for VET post-secondary programmes, both at the tertiary and non-tertiary level, while lowering the requirements for general education. It is also fundamental to ensure that all vocational students can build strong foundations in general content and have opportunities to engage with more complex content (if they want), by building strong links between upper secondary VET and post-secondary options. This can be done by carefully designing clear pathways with sequential options that can help students build upon their skills and by providing alternative options to strengthen foundations and general skills or meet requirements for entrance into higher levels.

Rewarding upper secondary vocational qualifications for entrance into tertiary education

Vocational systems can be made more attractive and beneficial to students if they provide secondary (and post-secondary non-tertiary) vocational students with an effective pathway to tertiary qualifications, including those with that provide higher VET offered by universities of applied science (or colleges in Lithuania) (OECD, 2017[38]). Cross-country experience also shows that upper secondary VET programmes with weak progression into post-secondary options tend not be attractive to either students or employers (Kuczera and Jeon, 2019[12]). In Denmark for example, weak opportunities for transition from apprenticeship to post-secondary education have been suggested as one cause of falling participation in youth apprenticeship programmes (Jørgensen, 2017[75]).

In Lithuania, upper secondary graduates from vocational education can access tertiary education, provided by colleges or universities. To date however, few upper secondary graduates follow this pathway, with only about 1-2% of vocational graduates entering tertiary education directly after completing their vocational programme in recent years (OECD, 2017[38]). According to Lithuania's national statistics, in 2015 only 0.5% of vocational students entered tertiary education in vocationally oriented colleges (ISCED 5) and 0.4% in universities providing bachelor's and master's degrees (ISCED 6) (Beleckienė, Kazlavickas and Palevič, 2022[11]). This is explained, partly, by the tertiary admission system that is entirely based on the state Matura results in general subjects, for which VET students receive less preparation (see Issue 2: Creating valued vocational pathways through upper secondary education). However, recent changes that will require a VET qualification in the selection to ISCED 5 programmes should help to facilitate access to VET tertiary options for graduates from upper secondary VET.

In many OECD countries, higher VET is often provided at ISCED level 5. While these short courses are often initially designed for students with a vocational orientation or experience from upper secondary education, it is common among OECD countries that VET graduates compete for entry to vocationally oriented tertiary programmes with those coming from general programmes (OECD, 2020[76]). This is why it is important to recognise the value of vocational qualifications in the admission process, to facilitate transition from upper secondary VET to post-secondary programmes, while ensuring that there is a sufficient supply of vocational options at the tertiary level. With the new reform, Lithuania will reward vocational qualifications, as it will require VET for entrance into the ISCED 5 programmes (see Chapter 2). However, stakeholders reported to the OECD team that the general education requirements are still quite high, especially for VET students. Lithuania could consider revising the admission criteria for post-secondary options to facilitate entrance for VET students, while ensuring that they have the minimum level of skills needed to succeed in these programmes.

Stakeholders also reported that restricting access to ISCED 5 programmes to general students could potentially cause a drop in enrolment, as not many students attain upper secondary vocational education and not all of them wish to pursue an ISCED 5 qualification. To improve the quality of short-cycle programmes, it is fundamental to expand participation. In addition, while this new reform represents an effort to reward vocational qualifications, there is a risk that these programmes will be perceived as an easier and less attractive option. Internationally, it is rare to restrict access to general graduates, and countries tend to use alternative strategies to help vocational students progress into tertiary education. Access can be restricted to students with the relevant VET qualification when programmes require essential prior knowledge and skills, as is the case in Switzerland, where a relevant vocational upper secondary qualification is a prerequisite for entering a professional education and training college or taking a professional examination (Kis, forthcoming[47]). Instead of requiring a vocational qualification, Lithuania could encourage tertiary education institutions to reward it (Field and Guez, 2018[77]) with some incentives, such as the following:

- Vocational students could be given priority to access specific programmes that build on their previous studies. For example, students applying to an ISCED 5 programme in the same field as their upper secondary VET qualification could receive additional points.

- Efforts could be made to ensure that upper secondary VET students are able to access ISCED 5 programmes and are not crowded out by graduates from general education. For example, a share of state-funded places in ISCED 5 institutions could be reserved for vocational students to encourage them to pursue higher levels of education.

Creating ISCED 4 as a clear option for progression and a sequential programme from ISCED 3

Employment in high-skill occupations is expected to continue to increase at a faster pace than in medium-skill occupations. This implies that there will be an increased need for higher-level vocationally oriented qualifications (at ISCED level 5 and above) and for easy pathways between medium-level VET and these higher-level qualifications (Vandeweyer and Verhagen, 2020[37]). As a response, many countries introduced post-secondary vocational programmes that enable VET students to develop more advanced technical and professional skills and acquire additional skills (Kuczera and Jeon, 2019[12]). In addition to helping meet the demand for high-level skills, effective pathways can help increase the attractiveness of VET, support lifelong learning, reduce inequalities and promote social inclusion and mobility (Field and Guez, 2018[77]). In Germany and the Netherlands, where there is a strong and clear articulation between upper secondary and post-secondary VET programmes, upper secondary VET graduates represent more than 30% of all students in post-secondary VET (Kuczera and Jeon, 2019[12]).

Lithuania could consider creating a clear option for progression and sequential programmes from upper secondary VET to post-secondary non-tertiary education (OECD, 2023[69]). In the current system there is no clear distinction between ISCED 3 and ISCED 4 vocational qualifications. Clear and sequential progressions could be built by providing students the option to top up an ISCED 3 programme with an ISCED 4 and/or ISCED 5 programme that then can be followed by an ISCED 6 programme in a college. Lithuania could carefully consider the role and design of ISCED 4 programmes to help both vocational and general upper secondary students progress to higher levels of education.

Even if countries have opened access to post-secondary education to VET graduates and to people with work experience, the actual use of this non-traditional access route is still relatively low (Cedefop (2019), 2019[78]). In practice, many barriers hinder smooth pathways between mid-level VET and higher levels of education, including fragmented education systems with limited transparency. When building pathways for progression, Lithuania should make sure that the content and level of VET programmes is clear for all stakeholders involved. This requires the development of a clear national qualifications framework that

allows for an easy mapping of VET qualifications and the provision of relevant career guidance (Field and Guez, 2018[77]).

Creating alternative pathways for progression for students who do not have access or need additional support

When providing diverse options in upper secondary VET, many countries provide two types of programmes, one with integrated academic content that typically includes some vocational training and leads to a qualification that gives eligibility to tertiary education and another that offers more work-based training and may not automatically offer eligibility for tertiary education (see Issue 2: Creating valued vocational pathways through upper secondary education). For students graduating from these programmes who wish to continue into higher-level programmes, countries usually offer alternative programmes or options to take additional academic courses or qualifications. The discussion in Issues 1 and 2 suggested how Lithuania might revise its upper secondary VET pathway to create these two distinct options. A consequence of this change would be the need to reconsider pathways out of the new upper secondary VET programmes. As in most countries, the more school-based option might provide direct access to tertiary education, in particular at ISCED level 5, where selection would recognise VET qualifications (see above). On the contrary, the more work-based option might not provide direct access to tertiary education but could be connected to different post-secondary non-tertiary education options (ISCED 4).

In some countries, where VET students do not have direct access to tertiary education, post-secondary non-tertiary programmes (ISCED 4 programmes) are commonly used to bridge upper secondary VET to tertiary programmes (UNESCO Institute for Statistics, 2012[79]), such as the college preparation programmes in Canada or the programmes leading to a university or university of applied sciences entrance qualification in Germany (Kis, forthcoming[47]). Lithuania could strengthen its post-secondary non-tertiary education (ISCED 4) so that it becomes a real pathway for vocational graduates from the work-based option to either build on their skills or enter tertiary education. At the same time, ISCED 4 programmes could be designed for general students who are interested in acquiring relevant vocational skills and then entering the labour market or accessing an ISCED 5 programme.

Since vocational students need to dedicate their time both to vocational and general content, getting the same academic preparation as general students might require extra time or effort. For this reason, drop-out in tertiary education among VET students is a common issue among OECD countries (OECD, 2019[68]). Lithuania could consider establishing support measures or additional options for entry into tertiary education embedded in the upper secondary vocational programmes to give VET graduates opportunities to fill potential gaps in their knowledge or skills and help them to succeed. In the Netherlands, upper secondary (MBO) VET institutions provide extra lessons or additional projects to support the transition of VET graduates into post-secondary programmes (Field and Guez, 2018[77]). In Switzerland and Norway, students following the apprenticeship programme may opt to take additional academic courses, designed specifically for VET students to qualify for entry into tertiary education (Kuczera and Jeon, 2019[12]; Cedefop, 2013[80]).

Ensuring students understand their options in upper secondary education and the consequences for the future

Providing more pathways and programmes needs to be accompanied by strong guidance, as students need to be aware of these options and their entrance requirements (see Issue 1: Reviewing students' transitions and orientation into upper secondary education and Issue 2: Creating valued vocational pathways through upper secondary education) (Vandeweyer and Verhagen, 2020[37]). It is also important to make students aware of the opportunities that higher levels of education offer and the consequences for their future when enrolling in specific programmes that might hamper their progression.

Option 3.b. Improving the quality of upper secondary vocational education to ensure that its value is recognised by employers

Compared to Lithuania, upper secondary VET in other OECD countries confers a considerably greater advantage for its graduates, both in the labour market and in tertiary education (OECD, 2022[3]). As a foundation for subsequent pathways, upper secondary VET programmes need to offer higher quality training, while reflecting the needs of the labour market (Field and Guez, 2018[77]). In order to make VET a more attractive pathway to students and employers and an effective option into higher levels of education, Lithuania will need to consider making the programme content and design more tightly focused on acquiring both strong foundational general skills and specific vocational skills. Revising the design of upper secondary VET will also require building in more space for WBL (see Issue 2: Creating valued vocational pathways through upper secondary education). These measures focused on the design of upper secondary vocational programmes will need to be completed by approaches to ensure that the quality of VET provision is high. First of all, Lithuania could consider ensuring that all VET teachers receive more high quality initial and continuous professional training in vocational skills and teaching. Incentives could also be developed to attract new, highly skilled individuals from vocational fields in VET schools. Increasing the involvement of employers in VET programmes would also contribute to strengthening the alignment between VET programmes and labour market needs to improve VET graduates' employment outcomes. Finally, Lithuania should put in place comparable quality assurance mechanisms across general and vocational upper secondary education, such as monitoring and collecting data, to ensure the quality of vocational programmes, including WBL.

Ensuring VET teachers receive high-quality preparation in pedagogy

Upper secondary VET in Lithuania is not promoting young people to acquire either strong foundational skills in general subjects or strong specific vocational skills. In addition to adapting the general content of VET programmes to provide more flexibility to cater to student needs, including providing greater academic support for those students who need it and allowing academically oriented students to pursue academically demanding programmes (see Issue 2: Creating valued vocational pathways through upper secondary education), raising the quality of teaching in general skills will likely provide students with a stronger basis in these transversal competencies to support progression into further education or the labour market.

Teachers in Lithuania do not seem to receive sufficient preparation in pedagogy. In particular, teachers of general subjects in VET schools do not receive any specific preparation to help them adapt their teaching approaches to the needs of their students. Younger teachers in Lithuania reported a lack of preparedness for teaching in some areas (OECD, 2019[81]). One challenge is the quality of ITE, which in Lithuania is focused on traditional subjects and curriculum content, with limited focus on the actual teaching process (Shewbridge et al., 2016[71]). Research has found that there is gap between teachers' theoretical and practical knowledge related to the limited time for trainee teachers' practice teaching (one semester) and the lack of current teachers' involvement in delivering ITE (Varanauskas, 2020[82]). In order to improve ITE, Lithuania could increase practical training and involve current teachers in the development of the study programmes (Varanauskas, 2020[82]). Given the recent changes in the curricula, Lithuania should also ensure that ITE prepares new teachers to teach the new social and emotional, cognitive, creativity, civic, cultural and communications skills and competences that students will need to develop (OECD, 2021[6]).

Specific modules during ITE might focus on differentiation and pedagogical approaches to help teachers identify and respond to the different needs and learning styles of their students. In particular, teachers of general content in the more work-focused VET option may have students who have experienced limited success with traditional approaches to teaching and learning in lower secondary education. To be able to best support those students, their teachers need to receive specific pedagogical training so that they can identify differences in students' learning styles and develop teaching approaches to create classrooms and activities that are inclusive for a range of different learners.

Attract new and highly skilled individuals with vocational skills into teaching

Despite many changes and reforms to the system, Lithuania has struggled to attract sufficient numbers of new candidates into the teaching profession. The attractiveness of the teaching profession overall is low, and the challenge is particularly acute in VET and STEM. Low enrolment in teaching programmes and few graduates entering the profession have contributed to teacher shortages in several fields of VET, for science, technology, engineering and mathematics (STEM) and in rural areas (OECD, 2021[6]). PIAAC showed that in Lithuania, high-performing students usually do not choose teaching as a profession, as it found that teachers' numeracy skills were lower than those of other tertiary graduates in Lithuania, as well as lower than the average level of teachers in other OECD member countries (OECD, 2016[39]). Lithuania has struggled in particular to attract and retain young teachers and teachers with strong pedagogical and professional qualifications and experience in lower secondary education, with similar findings very likely applying to VET. Almost 30% of lower secondary education teachers below the age of 51 in Lithuania stated that they want to leave teaching in the next five years, among the highest rate in the OECD, and double the OECD average (OECD, 2020[83]) While they are lower secondary education teachers, they likely provide a broad indication of sentiment across the teaching profession. Several factors have limited the attractiveness of the teaching profession to youth, teachers and professionals. The OECD Skills Strategy review developed specific recommendations for Lithuania to attract and empower teachers (OECD, 2021[6]). Among these, the most relevant for attracting more VET teachers include:

- Improving career progression opportunities by, for example, linking teachers' salaries to their responsibilities and performance rather than to tenure, and using pay increases or bonuses linked to appraisal processes (and potentially certification). Lithuania could also introduce systematic national financial incentives, for example in the student-funding formula, for teaching in subjects in which there are teacher shortages, such as STEM and VET, and in rural and disadvantaged schools.

- Developing and promoting diverse pathways for students and working professionals to become teachers. To increase the intake of skilled students and professionals into initial teacher training, in addition to academic achievement, selection processes could consider candidates' motivation, prior non-formal work experience, and skills and attitudes. Since from 2020 those studying to become teachers receive "motivation scholarships", Lithuania could target these scholarships to high-performing students and specialisations in which there are shortages (e.g. STEM and VET). The government could also actively promote teaching as a career using multimedia channels, as well as through expanded career guidance services.

- Creating more flexible ways to bring industry professionals into the classroom by, for example, inviting them to workshops or allowing them to teach only a limited number of hours per year or per week without becoming qualified teachers or providing them with opportunities to acquire teacher training in a flexible way while on the job. This requires strong engagement between VET schools and employers (see below).

Providing teachers with CPD to continually build their professional skills and knowledge

While all teachers theoretically participate in CPD, many teachers report that they are not always able to access relevant training (OECD, 2021[6]). Being able to access relevant CPD is particularly important for VET teachers to keep their industry knowledge and skills up to date with industry trends (OECD, 2021[63]). Lithuania could also introduce more innovative forms of professional development, especially for VET teachers. While traditional training in the form of courses or seminars can be effective (Hoban and Erickson, 2004[84]), school-embedded professional development, tends to have a larger impact on teaching practices and can significantly reduce the cost of training (OECD, 2021[6]).

Increasing the involvement of employers in VET programmes

Strong co-ordination between VET and the labour market encourages better understanding of how jobs and skill needs are changing and how VET programmes could be responsive to these changes. Strong involvement of employers in VET also facilitates the implementation of WBL (Vandeweyer and Verhagen, 2020[37]) and fosters innovation in VET programmes (Kuczera and Jeon, 2019[12]). Issue 2 has already discussed how to increase WBL in VET by creating financial and non-financial incentives for employers (see Issue 2: Creating valued vocational pathways through upper secondary education). Aside from WBL, employers and partners can be involved at different stages and in different processes of VET programmes, such as in curriculum design, application, and feedback phases (KOF Swiss Economic Institute, 2016[85]). Evidence shows that when looking at the different processes in which employers can be involved, the main features of VET in top performing countries are that employers are involved in:

- setting qualification standards
- deciding when a curriculum or qualification update is needed
- determining the design and content of assessment for qualification (Vandeweyer and Verhagen, 2020[37]).

Lithuania could consider how it can enhance the involvement of employers in some or all of these aspects when developing and updating vocational programmes. This co-ordination between the VET system and employers can happen at different levels and be organised in various ways. Effective arrangements should enable social partners to provide their input into vocational programmes regularly, in a timely manner and in all relevant areas (Kuczera and Jeon, 2019[12]). Among OECD countries it is common to introduce bodies responsible for bringing together key stakeholders within each sector to identify their specific skill needs and then coordinate with the education system (Vandeweyer and Verhagen, 2020[37]). Lithuania could introduce such bodies for improving the design of vocational programmes and could use the existing network of practical training centres to engage with local employers to help students find an apprenticeship and expand WBL. In the United Kingdom, for example, the Greater Manchester city region created an Apprenticeships Hub that aims to improve information and guidance services for young people, build capacity among education providers and engage employers (OECD/ILO, 2017[86]).

Improving and expanding the quality assurance system in VET

Since Lithuania does not have a consistent approach among institutions for monitoring the quality of WBL, it is challenging for policy makers to ensure that funds and policies in VET are directed effectively and efficiently. Lithuania could consider expanding existing administrative datasets with details on students' WBL activity to inform policy and ensure the quality of WBL. Lithuania could also start collecting additional data, such as administrative data from VET institutions on the quantity and type of WBL undertaken by students, to better inform policy in this field. Then the quality assurance agencies responsible for VET could develop and implement a framework for monitoring the quality of WBL as part of their activities (OECD, 2021[6]).

Lithuania also needs to take steps to ensure that quality assurance of VET programmes is comparable to the current measures for general education. Quality assurance of the vocational content of VET programmes might focus on reviewing and helping vocational schools to collect and monitor regular indicators on student outcomes, such as progression into post-secondary education and employment, as part of their own self-evaluation. The framework might include other quality indicators, such as the share of teachers with relevant work experience in the VET field that they are teaching and the average hours of CPD that teachers have engaged in over the past year. It is imperative to take steps to ensure that there is oversight of the quality of teaching for general subjects in VET schools, which does not currently appear to be the case. Given the fundamental importance of foundational skills for the future work, education and life opportunities of VET students, the Ministry needs to make it a priority to ensure that quality assurance mechanisms are in place. This is also crucial to send the message across the education system about the importance of both vocational and general education.

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Notes

[1] In some countries such as Austria, Germany and the Netherlands where a high share of students does not transition at the expect time to a large extent this just reflects the design and structure of the education systems, particularly the longer length of certain educational programmes, notably vocational.

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