Strategy Development
Workshop Summary Note

OECD SKILLS STRATEGY LATVIA IMPLEMENTATION GUIDANCE

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OECD Skills Strategy Latvia Implementation Guidance

STRATEGY DEVELOPMENT WORKSHOP SUMMARY NOTE

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Potential indicators for Latvia's Education Development Guidelines 2021-2027

This Strategy Development Workshop Summary Note describes the process through which indicators were identified for Latvia's Education Development Guidelines 2021-2027 (EDG) and presents potential indicators for inclusion in the EDG.

Strategy Development Workshop

In the context of the OECD Skills Strategy Latvia Implementation Phase, a Strategy Development Workshop to discuss potential indicators was held in Riga in February 2020. The workshop was held over two days and convened indicator experts from various Latvian ministries and government agencies on the first day, as well as stakeholders from schools, municipalities, business, academia, and civil society on the second day. The aim of the workshop was to identify together a set of indicators that could be relevant for Latvia's EDG.

Discussions were held in five working groups covering five levels of education: ECEC, general education, VET, higher education and adult learning. The division of working groups by level of education allowed for a more technical discussion of indicators specific to these levels, and helped to avoid repetition and redundancies. Furthermore, participants were often experts in a specific level of education and so the discussion was able to benefit from their education-level specific expertise.

In preparation for the workshop, the OECD examined extensively the data sources for indicators available to the Latvian government from national and international sources and compiled a list of 181 possible indicators (Box 1). This list was presented on the first day to the indicator experts who reviewed them and identified those they thought most relevant for Latvia's EDG. Participants were also encouraged to propose new indicators, where necessary. The OECD facilitated discussions and asked participants to use the SMART quality framework (see Chapter 3 in full report) when considering any potential indicator. Participants also had to identify which of the four policy objectives of the EDG the indicator would link to. The four policy objectives[1] were: 1) teaching and academic excellence; 2) accessible and quality education for everyone; 3) future skills for future society; and 4) sustainable education systems and effective resource management. At the end of the day, each of the five working groups prioritised and discussed in-depth between 10 and 12 potential indicators for each level of education, ending up with a total of 54 indicators.

The results of the first day were presented on the second day to a larger group of stakeholders to collect feedback on the extent to which they agreed with the potential indicators, and whether they had any concerns or would suggest any modifications or new indicators. Based on their feedback, the potential list of indicators was further revised. Many of the potential indicators were adopted in Latvia's EDG.

Potential benchmark values for the indicators were also briefly discussed during the workshop. However, due to time limitations it was not possible to cover these extensively, and so specific benchmark numbers are not featured in this chapter. However, Chapter 3 in the full report makes some practical suggestions for setting benchmarks for indicators.

Box 1. Indicator sources used for the Strategy Development Workshop

The OECD extensively reviewed the available indicators from national and international sources to compile a list of potential indicators to consider during the Strategy Development Workshop held in Latvia in February 2020. The three main sources for potential indicators included:

Indicators from the previous EDG for 2014-2020. As the new EDG 2021-2027 builds on the efforts of the previous EDG, consideration should be given to continuing the indicators that proved to be effective and meaningful in the previous EDG. At the time of the workshop, the OECD had access to the list of indicators and their values from the medium-term evaluation of the previous EDG. These were also shared with workshop participants which allowed them to compare the benchmark levels of the previous EDG indicators and the actual attained levels from the medium-term evaluation. Some of the previous EDG indicators were well formulated but could not be used due to a lack of data to track them.

These were flagged to participants so that they could also consider them and discuss what data sources it would take to potentially operationalise these indicators for the next EDG.

Indicators from the "Education Quality Monitoring System Development and Implementation" project. This project supports the development of an education quality monitoring system that includes indicators on student achievement at the national level and other indicators describing education institutions, such as examination results, accreditation, licensing and teacher performance assessment. The project is implemented by the Ministry of Education and Science, other education agencies (NCE, SEQS, SEDA and Akadēmiskās Informācijas centrs), Civitta Ltd (an external contractor) and the Centre for Higher Education Policy Studies of the University of Twente, which is a research institute. The project has identified possible indicators to be used for quality monitoring activities in education and has provided detailed information on data sources, frequency of measurement, granularity, reference levels of education and methodology for calculation. Relevant indicators from this project were included in the workshop to ensure consistency between the indicators developed in this project and those included in the EDG.

Source: Civitta (forthcoming[1]), Report on education quality monitoring system and tools.

Indicators used internationally. These indicators were used to encourage participants to consider indicators that would be comparable internationally. Such indicators allow Latvia to follow European and international standards and practices in monitoring targets in education and skills policies. The main international indicator data sources included were the OECD "Education at a Glance" indicators (OECD, 2019[2]), the Programme for International Student Assessment (PISA) indicators (OECD, 2019[3]), the Teaching and Learning International Survey (TALIS) indicators on teachers (OECD, 2019[4]), the indicators from the strategic framework for European Cooperation in Education and Training (ET 2020), and the Sustainable Development Goals indicators.

Source: OECD (2019[2]), *Education at a Glance 2019: OECD Indicators*, https://doi.org/10.1787/f8d7880d-en; OECD (2019[3]), *PISA 2018 Results (Volume I): What Students Know and Can Do*, https://dx.doi.org/10.1787/5f07c754-en; OECD (2019[4]), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, https://dx.doi.org/10.1787/1d0bc92a-en.

The list of indicators discussed by workshop participants is presented by level of education below. A summary of the discussion with participants and additional guidance from the OECD is provided for each indicator. The indicators presented in the tables should not be taken as a final list, but rather as a work in progress, and in most cases in need for further refinement, as shown in the participants' comments and OECD reflections. For some indicators, participants or the OECD have made suggestions for revision or for using alternative indicators, which Latvia may wish to consider. A summary of the indicators is presented in Chapter 3 of the "OECD (2020) Skills Strategy Latvia Implementation Guidance: Developing Latvia's Education Development Guidelines 2021-2027" report.

Potential EDG indicators for early childhood education and care

This section describes potential indicators for early childhood education and care (ECEC). Table 1 provides an overview of the indicators in English and Latvian with suggestions for which Education Development Guidelines 2021-2027 (EDG) policy objectives they could relate to and the indicator data source. Each indicator is then presented individually with comments from workshop participants and reflections from the OECD. Remaining gaps in indicators for early childhood education and care are also highlighted.

Table 1. Overview of potential indicators for early childhood education and care

Indicators discussed by participants during the two-day workshop in Latvia.

No.	Indicators in English	Indicators in Latvian	Possible link to policy objective	Source of the indicator
ECEC.1	Proportion of teachers involved in professional development activities (as a percentage) of the total number of teachers by type of activity (including special needs).	Pedagogu īpatsvars, kas iesaistīti tālākizglītības aktivitātēs, % no kopējā pedagogu skaita (ieskaitot prasmes darbam ar bērniem ar īpašām vajadzībām).	(1) Teaching and academic excellence. (2) Accessible, quality education for everyone. (4) Sustainable education systems and effective resource management.	Indicators included in the previous EDG for 2014-2020 – modified
ECEC.2	Ratio of students to full-time equivalent teachers (teachers only and teachers plus assistants).	Bērnu un pilna laika pedagogu proporcija (tikai pedagogi un skolotāji + aukles).	(2) Accessible, quality education for everyone.	Indicators included in the previous EDG for 2014-2020 – modified
ECEC.3	Ratio of actual teachers' salaries to earnings for full-time, full-year adult workers with tertiary education by education level.	Pedagogu faktisko algu un pilna laika nodarbināto ar augstāko izglītību algu proporcija.	(1)Teaching and academic excellence. (4) Sustainable education systems and effective resource management.	Additional indicators proposed by the OECD "Education at a Glance" (EAG) publication
ECEC.4	Proportion of principals who have achieved level 4 or level 5 compared to all evaluated principals.	Novērtēto izglītības iestāžu vadītāju īpatsvars 4. un 5. līmenī pret visu novērtēto izglītības iestāžu vadītāju skaitu (attiecīgajā izglītības pakāpē).	(1)Teaching and academic excellence.	Indicators from the "Education quality monitoring system development and implementation" project –modified
ECEC.5	Proportion of teachers below the age of 29.	Pedagogu īpatsvars, kuri ir jaunāki par 29 gadiem.	(1) Teaching and academic excellence.	Additional indicators proposed by the OECD – EAG
ECEC.6	Proportion of teachers who are satisfied with their job.	Pedagogu īpatsvars, kas ir apmierināti ar savu darbu.	(1) Teaching and academic excellence. (2) Accessible, quality education for everyone.	Additional indicators proposed by the OECD – TALIS
ECEC.7	Special needs and learning difficulties of children diagnosed at an early age to make timely prevention and adjustment work.	Agrīnā vecumā diagnosticētas bērnu speciālās vajadzības un mācību grūtības, lai veiktu savlaicīgu profilakses un korekcijas darbu, %.	(2) Accessible, quality education for everyone.	Indicators included in the previous EDG for 2014-2020
ECEC.8	Share of special needs students among children in schools who participate in some activities with other children.	Integrēto izglītojamo ar speciālām vajadzībām īpatsvars vispārizglītojošās izglītības iestādēs, kuri piedalās vismaz dažās kopīgās aktivitātēs ar pārējiem bērniem.	(2) Accessible, quality education for everyone.	Indicators from the "Education quality monitoring system development and implementation" project –modified
ECEC.9	Proportion of schools with access to adapted infrastructure and materials for students with disabilities.	Izglītības iestāžu proporcija, kurās ir pielāgota infrastruktūra un mācību materiāli bērniem ar īpašām vajadzībām.	(2) Accessible, quality education for everyone.	Additional indicators proposed by the OECD – SDG
ECEC.10	Proportion of mandatory education age children who are not registered in any educational institution (%).	Obligātās izglītības vecumā esošo bērnu, kuri nav reģistrēti nevienā izglītības iestādē, īpatsvars, %.	(2) Accessible, quality education for everyone.	Indicators included in the previous EDG for 2014-2020
ECEC.11	Share of children between 4 years old and the age for starting compulsory primary education participating in early childhood education.	Bernu īpatsvars no 4 gadu vecuma līdz sākumskolas uzsākšanas vecumam, kuri piedalās pirmsskolas izglītībā.	(2) Accessible, quality education for everyone.	Additional indicators proposed by the OECD – ET 2020
ECEC.12	Enrolment rates of 3-year-olds in ECEC.	3 gadus vecu bērnu līdzdalība pirmsskolas izglītībā, %.	(2) Accessible, quality education for everyone.	Additional indicators proposed by the OECD – EAG

Indicator ECEC.1. Proportion of teachers involved in professional development activities (as a percentage) of the total number of teachers by type of activity (including special needs)

Main comments from participants during the workshop

General comments: The indicator was considered clear and relevant by most participants.

Main challenges/concerns: In Latvia, professional development is mandatory for teachers (36 hours over a three-year period). The school head has responsibility for planning with teachers the professional development (PD) activities that are most necessary for their work. Participants highlighted the importance of breaking down this indicator by activities. In the previous EDG, the following activities were proposed for this indicator: entrepreneurial spirit, financial literacy, leadership, ICT and foreign languages.

Proposals for modifications/additions: Participants proposed adding other types of training that focused on, for example, special needs, talented children and the recognition of children within at-risk groups.

Practical implications: In addition to the national-level analysis, participants highlighted the importance of indicators at the school level.

Reflections from the OECD

The OECD recognises the importance of selecting this indicator. PD activities allow teachers to develop skills that will be beneficial for their learning, their teaching practices and their students' development. Bearing in mind the mandatory nature of PD in Latvia, high levels of participation are generally expected for teachers. Further breakdowns of this indicator (i.e. by school, rural/urban area, type of activity) would therefore be key to the identification of areas for improvement. The quality of PD activities should also be taken into account, and it could be relevant to collect information on the positive impact PD has on teaching practices, as well as the barriers to and overall support for teachers' participation in PD activities. It might be interesting to track the proportion of teachers who feel in need of training activities on selected topics, such as ICT skills, special needs children and working with dual/second language learners.

Indicator ECEC.2. Ratio of students to full-time equivalent teachers (teachers only and teachers plus assistants)

Main comments from participants during the workshop

General comments: The indicator was considered clear and relevant by most participants and replaces the originally proposed indicator "Predetermined proportion of the number of students to a monthly wage rate of a teacher".

Main challenges/concerns: The only concern highlighted by participants was regarding which cohort of adults to take into consideration. While everyone recognised the value of calculating the ratio of students to teachers, they also considered including another indicator on the ratio of students to teaching staff, which is a broader category that includes teaching assistants and nannies (childcare function).

Proposal for modifications/additions: Consideration was given to breaking down this indicator for teachers only and for teaching staff (teachers plus assistants). Participants mainly discussed this indicator at the school level, but it could be also considered at the regional or national level (see OECD reflections below).

Reflections from the OECD

This is a well-established indicator that is also calculated at the international level (OECD, 2019[5]). At the school level, the indicator better reflects the availability of teachers to students. At this level of education, many teachers could work part time in different schools (see analysis of the same indicator in the section

dedicated to indicators at the general education level). The indicator calculated at the national level therefore conveys different information.

Students should also be counted according to their full-time equivalent in this indicator, as many may be enrolled part time. It is important that full-time equivalents reflect the full- and part-time status of students' enrolment, rather than other factors such as the inclusion/exclusion of the "care" component from the "educational" component.

The internationally agreed definition of "teacher" can be found in the "OECD Handbook for Internationally Comparative Education Statistics" (OECD, 2018[6]) and may be a useful starting point for defining the scope of the indicator.

It is also necessary to clarify the different types of assistant in Latvia. During the workshop, participants made a distinction between assistants and nannies. The terminology of nannies does not appear in the teachers and education staff positions listed by the European Commission (Eurydice, 2018[7]).

Indicator ECEC.3. Ratio of actual teachers' salaries to earnings for full-time, full-year adult workers with tertiary education by education level

Main comments from participants during the workshop

General comments: The indicator was considered clear and relevant by most participants. Stakeholders suggested including this indicator, given the need to increase teacher salaries in ECEC.

Main challenges/concerns: The question of teachers' salaries is of high importance in Latvia. Participants highlighted the difference between the number of working hours in primary (30 hours per week) and pre-primary teaching (40 hours per week). The annual average wage could be the same, while the hourly wage would be quite different. There was a recommendation to measure hourly wages to enable a more accurate comparison of the wages at different levels of education. There was also a proposal to use the modal wage instead of the mean wage.

Proposal for modifications/additions: Participants mentioned the need to measure this indicator as full-time equivalents to ensure comparability. During the selection process, this indicator was left out in favour of the OECD Education at a Glance indicator on the ratio of actual teachers' salaries to earnings for full-time, full-year adult workers with tertiary education by education level. Participants also recommended disaggregating the indicator by level of education.

Practical implications: This indicator was deemed most relevant at the national level.

Reflections from the OECD

This indicator is currently calculated at the international level and is published every year in the OECD's "Education at a Glance" (EAG) publication (OECD, 2019[5]), which contains more details on definitions and methodology.

According to the results published in EAG, teachers' salaries in Latvia are higher than those of tertiary-educated or similarly educated workers in the country, although nearly all participants expected this level to be lower. The ratio of actual teachers' salaries to earnings of similarly or tertiary educated workers comes from two different sources: the numerator comes from the Network for the collection and adjudication of system-level descriptive information on educational systems, policies and practices (NESLI) questionnaire on teacher salaries, while the denominator comes from the Labour Force Survey. The sources used to calculate this indicator must be looked at closely before considering whether to include this indicator in the EDG. There may be a problem with the sample size of both sources that could result in a bias in the indicator results. It is recommended to use coherent data sources (e.g. include national data sources, register data) on teachers' salaries and similarly or tertiary educated workers.

While no information is available on the salary levels according to teachers' career progression, it would be interesting to measure the evolution of this indicator according to teachers' experience and to break it down for male and female teachers.

Indicator ECEC.4. Proportion of principals who have achieved level 4 or level 5 compared to all evaluated principals

Main comments from participants during the workshop

General comments: There was general agreement on having an indicator to measure the quality of school headteachers. However, the indicator "Education institution head assessment (as part of accreditation)" as proposed in the Ministry of Education and Science list was considered insufficiently clear.

Proposal for modifications/additions: Participants proposed changing the indicator to the "proportion of principals who have achieved level 4 or 5 compared to all evaluated principals", by taking into account the new qualification framework. Level 4 and 5 are the highest possible levels that principals can receive in Latvia's evaluation of school principals as part of the accreditation process.

Main challenges/concerns: The various rankings within the new qualification framework (level 4 or 5) were not known by all participants. It was therefore proposed expressing the indicator in a qualitative rather than quantitative way, and to use it to identify principals needing support rather than providing a negative evaluation. A measure for the development of good leadership was suggested; however, a number of stakeholders expressed some concerns about this evaluation as experts who are (or will be) responsible for these evaluations may use different evaluation criteria. Participants therefore recommended having strict rules to ensure that every evaluation is comparable. Participants also questioned the relevance of including such an indicator in a seven-year strategy, knowing that the State Education Quality Service evaluates school headteachers every six years. In addition, participants recognised the importance of measuring the proportion of school headteachers with good performance, but highlighted the need to take into account any measures (such as training) that had prepared school headteachers for good evaluation results.

Practical implications: This indicator was seen as important at the municipal level.

Reflections from the OECD

School principals have a major role to play in the success of the education system, and including indicator ECEC.4 is therefore important for the EDG. However, in order to ensure that progress regarding the quality of school principals is captured by data, the periodicity of this indicator must be taken into account. Given that the strategy is relatively short term, using an indicator that is measured every five or six years may not be ideal. It might be useful to look at whether other indicators exist in school surveys.

It could be worthwhile enquiring about the availability of data related to ECEC principals' work experience, highest educational attainment, formal training and types of professional development undertaken. The OECD Teaching and Learning International Survey (TALIS) has developed some indicators on principals in lower secondary schools, including the proportion of principals who have never received training as a principal, or on instructional leadership and the proportion of principals reporting a high level of need for professional development in 11 different areas. In Latvia, at least one in ten principals report a need for professional development in the following areas: knowledge and understanding of current national/local policies on education, using data for improving the quality of the school, providing effective feedback, and developing collaboration among teachers (OECD, 2019[4]).

The Starting Strong TALIS survey analyses the need of ECEC principals for training courses in early childhood, administration and pedagogical leadership (OECD, 2019[8]). However, Latvia did not take part in this survey.

Indicator ECEC.5. Proportion of teachers below the age of 29

Main comments from participants during the workshop

General comments: This indicator was proposed by the indicator experts, but not by stakeholders. It is an indicator that would apply to all levels of education (not only ECEC).

Reflections from the OECD

This indicator is one of the international indicators used to measure the attractiveness of the teaching profession. The OECD recognises the importance of having a fair share of young teachers who have acquired new teaching techniques. It also ensures that there will be no shortage of teachers in the coming years.

The OECD also recognises that indicator ECEC.5 alone is not sufficient to capture the attractiveness of the profession, and is only one of a comprehensive set available from international sources. Moreover, given that the age distribution of the teaching workforce may depend on the demographic phase and on the age distribution of the population as a whole, complementary measures may be needed, such as the breakdown of this indicator by urban/rural area, the ratio of teachers to the population by age group, and the proportion of young graduates in the field of education.

Indicator ECEC.6. Proportion of teachers who are satisfied with their job

Main comments from participants during the workshop

General comments: This indicator was taken from the international indicator list proposed by the OECD. There were questions on how to measure teacher satisfaction. The indicator is reported via self-evaluation through the item “agree” or “strongly agree” with the statement: "All in all, I am satisfied with my job". Participants commented that in Latvian culture, there is a cultural tendency of expressing that they are not satisfied with life generally.

Main challenges/concerns: There was a brief discussion about the fact that in general, people in Latvia seem to be unsatisfied at work. This is also the case for teachers, and some participants mentioned that the profession of preschool teacher is not seen as prestigious.

Practical implications: Participants highlighted the importance of analysing the results at the school level, as well as at regional and national levels.

Reflections from the OECD

The OECD welcomes the use of this indicator in the EDG, as job satisfaction captures the sense of fulfilment and gratification that teachers get from working. Studies have revealed that positive job satisfaction has a positive impact on teachers, as well as on school climate and students.

This indicator is interesting both at the national level and at the school level. It must be taken into account that this indicator does not yet exist at the ECEC level, and that there would be a cost involved in developing it at this level.

The OECD TALIS survey analyses the positive impact between teachers’ initial induction and their self-efficacy and job satisfaction in lower secondary schools (OECD, 2019[4]). Teachers’ self-efficacy and job-satisfaction indices in TALIS can help measure their self-efficacy in classroom management, instruction and student engagement and satisfaction with their current work environment, and satisfaction with the profession. In addition, it could be interesting to measure the proportion of teachers who receive a formal or informal induction at the beginning of their career.

A measure of teachers’ job satisfaction is also available in the OECD Starting Strong TALIS publication, but Latvia did not take part in this survey (OECD, 2019[8]).

Indicator ECEC.7. Special needs and learning difficulties of children diagnosed at an early age to make timely prevention and adjustment work

Main comments from participants during the workshop

General comments: An active discussion regarding what constitutes "special needs" took place for this indicator, but it was not possible to come to an agreement on how it should be defined. Nevertheless, participants decided to keep the indicator in the final list.

Main challenges/concerns: The main concern for participants was that the process to formally diagnose a student as a special needs student takes from one to many years. During this time, the child does not receive the support they require. It was also discussed that it might be necessary to have an indicator on how many children receive support, but that this could involve a very high number of support mechanisms, with the indicator then not being easily interpretable. Currently, children receive special needs support in primary education, as diagnostic material is used to test children in compulsory school as of age five.

This indicator was considered a high priority, but it was acknowledged that adjustments should be made to define the indicator more clearly. Children at risk would need to be diagnosed as early as possible in order to receive support.

Proposal for modifications/additions: Participants agreed that "early age" should be replaced by "entry into school" in the definition of the indicator. The terminology of special needs already refers to a child that has been officially identified/diagnosed; however, participants expressed the need to introduce a more nuanced terminology and to refer to one of the three following proposed categories of special needs: "at risk", in "the process of diagnosis" or on "course to be recognised as special needs". Questions were raised about who should undertake the diagnosis and, if this is part of teachers' competences, whether and how are they trained to do so.

Practical implications: Participants also saw the usefulness of comparing this indicator across regions/cities as it could help social affairs better adjust the number of assistants in schools.

Reflections from the OECD

The need to create an indicator on special needs and learning difficulties was very clear in this workshop. However, the working group was unable to find the right measure/indicator. At the international level, special needs is a complicated subject, and the term "special needs" means different things in different countries. In some countries it covers only children with physical disabilities, while in others it includes a broader range of students such as those who face learning difficulties or socio-economically disadvantaged students. In order to enable policy relevant comparisons nationally or internationally in this field it is important that there is a general common understanding of different types of physical and cognitive disabilities.

Indicator ECEC.8. Share of special needs students among children in schools who participate in some activities with other children

Main comments from participants during the workshop

General comments: This replaces the previously proposed indicator "Share of students with special needs of all children with special needs who acquire education inclusively". The main discussion was on the interpretability of inclusiveness. What should be taken into account when considering how a child with special needs is integrated in a school? How to take into consideration different situations such as special needs students in regular classes, in specific classes in regular schools or in special schools?

Main challenges/concerns: There were some questions about the types of activity (learning/leisure) that should be taken into account and a request to clearly define them in the indicator. Comments were also made that some parents may not be keen for their child to be considered as having special needs.

Proposal for modifications/additions: Participants proposed changing this indicator to the proportion of special needs students among children in schools who participate in some activities with other children, in order to better measure inclusiveness.

Practical implications: This indicator is relevant at the national and regional levels.

Reflections from the OECD

At the international level, there is a common agreement of the importance of the inclusion of students with special needs in regular learning environments.

The difficulty with this indicator, as defined by the participants, is to agree on the types of activity to be measured. When these activities are defined, it will be necessary to ensure that there is a common understanding of these concepts by all of the people interviewed. This indicator does not yet exist, and there will therefore be a cost to set it up.

Indicator ECEC.9. Proportion of schools with access to adapted infrastructure and materials for students with disabilities

Main comments from participants during the workshop

General comments: There was a discussion about the benefits of providing adequate infrastructure that is inclusive for students with disabilities across all educational institutions, and the related social and financial costs.

Main challenges/concerns: The participants first discussed the need for a better definition of the term "accessibility". Does this mean that the institution has a suitable physical environment, such as lifts for physical disabilities, or only the adapted learning material? There was also a discussion on the cost of not being able to provide adequate infrastructure in all educational institutions.

Proposal for modifications/additions: There was a proposition to change this indicator to the Sustainable Development Goal (SDG) 4.a.1: Proportion of schools with access to adapted infrastructure and materials for students with disabilities. The Ministry of Education and Science mentioned that in 2016, only about 17% of schools offered complete access, with the infrastructure of more schools offering partial access.

Practical implications: This indicator is relevant at the national, regional and municipal levels.

Reflections from the OECD

This indicator is important to indicate the accessibility of educational institutions for people with special needs, but the question of the costs involved also needs to be taken into account. Therefore, the granularity of this indicator could be set at the aggregate regional and national levels.

Indicator ECEC.10. Proportion of mandatory education age children not registered in any educational institution (%)

Main comments from participants during the workshop

General comments: The indicator was considered clear and relevant by most participants.

Main challenges/concerns: Discussion on this indicator covered the difficulties for municipalities to measure the proportion of children not registered in any educational institution, as often a child could be registered in one municipality and attend preschool in another. There were some discussions on the

possibility for children to be registered at the national level, and for data to be transferred to municipalities afterwards. There was also a request for better co-operation between the Ministry of Welfare and the Ministry of Education and Science on this issue.

Practical implications: This indicator is relevant at the national, regional and municipal levels.

Reflections from the OECD

This indicator is relevant in the national context. In order to monitor it properly, municipalities must define the reasons for a child not being registered. This implies a human resource capacity that municipalities do not always have.

Indicator ECEC.11. Share of children between 4 years old and the age for starting compulsory primary education participating in early childhood education

Main comments from participants during the workshop

General comments: This indicator is a priority in the strategic framework for European co-operation in education and training (ET 2020).

Main challenges/concerns: The European Commission is reviewing ET 2020 indicators and it seems that this indicator will be changed to: “Share of children between 3 years old and the age for starting compulsory primary education participating in early childhood education”.

Practical implications: This indicator is relevant at the national level.

Reflections from the OECD

The OECD welcomes the use of this indicator in the EDG. It is also widely used internationally, both at the European level and within SDGs. The use of this indicator would allow Latvia to benchmark its performance with European and international peers.

Indicator ECEC.12. Enrolment rates of 3-year-olds in ECEC

Main comments from participants during the workshop

General comments: In the new monitoring framework after 2020, the European Commission might change the participation rate indicator to the enrolment rates of 3-year-olds.

Proposal for modifications/additions: There were two indicators on enrolment: one at the age of 2 and the other at the age of 3. Participants kept the enrolment rate for 3-year-olds.

Practical implications: This indicator is relevant at the national level.

Reflections from the OECD

This indicator is relevant in the national context. Nevertheless, in order to limit the total number of indicators, the OECD recommends only using indicator ECEC.11 to highlight the share of young children in early childhood education and care (ECEC) and pre-primary education.

Latvia recently started reporting enrolment data on children younger than 3 years of age as part of the International Standard Classification of Education (ISCED) classification and, more specifically, as part of early childhood educational development (ISCED 01). Latvia populated the OECD enrolment database with data from school year 2012/13. The enrolment rates are above 90% for 3-year-olds (the OECD considers rates above 90% as full enrolment) and over 70% for 2-year-olds. The OECD therefore suggests tracking enrolment rates at both ages.

Main remaining gaps for early childhood education and care indicators

The discussions during the strategy development workshop covered teachers, special needs and the number of children enrolled in school. It would also be of interest to look at other aspects of ECEC education, such as equity, governance and financing.

Equity

None of the current indicators monitor the question of equity. A common way of monitoring the level of equity for a given indicator is through parity indices,[2] where the indicator value for the "disadvantaged" group (e.g. rural) is divided by the indicator value for the "advantaged" group (e.g. urban). The most relevant disaggregation for Latvia would need to be discussed.

Financing of education

None of the current indicators monitor the question of financing. An indicator on spending per student has been suggested at other levels of education and should also be measured for ECEC. It would also be interesting to track financial support to families and/or the regional/municipal allocation of financial resources.

School governance

School governance is included in Latvia's new directions for education, but was not included in the final list of indicators selected for ECEC. Given that this topic is cross-cutting in nature it is important to assess this gap, while taking into account the full list of indicators for all levels of education.

With regard to teachers, there was an indicator on "Employee turnover in previous academic years" that was not included in the final indicator list. Participants proposed disaggregating it by reasons of departure and length of experience. The OECD recommends an indicator that can show the reasons for teacher dissatisfaction.

Potential EDG indicators for general education

This section describes potential indicators for general education, which includes primary and secondary education in Latvia. Table 2 provides an overview of the indicators in English and Latvian with suggestions for which EDG policy objectives they could be relevant and the indicator data source. Afterwards, each indicator is presented individually with comments from workshop participants and reflections from the OECD. Finally, remaining gaps for general education indicators are highlighted.

Table 2. Overview of potential indicators for general education

Indicators discussed by participants during the two-day workshop in Latvia

No.	Indicators in English	Indicators in Latvian	Possible link to policy objectives	Source of the indicator
GE.1	Share of low and high achievers in the Programme for International Student Assessment (PISA).	Skolēni ar zemiem mācību rezultātiem (15 gadu vecumā; PISA 1. un zemāks līmenis)/ Skolēni ar augstiem mācību rezultātiem (skolēni 15 gadu vecumā; PISA 5. un 6.līmenis), % lasītprasmē, matemātikā, dabaszinātnēs.	(1) Teaching and academic excellence. (2) Accessible, quality education for everyone.	Indicators included in the previous EDG for 2014-2020
GE.2.	Percentage of digital teaching resources out of total resources.	Digitālo mācību līdzekļu vispārējā un profesionālajā izglītībā īpatsvars, % no kopējo mācību līdzekļu skaita.	(1) Teaching and academic excellence. (3) Future skills for future society.	Indicators included in the previous EDG for 2014-2020

No.	Indicators in English	Indicators in Latvian	Possible link to policy objectives	Source of the indicator
GE.3	Ratio of students to support personnel (psychologist, speech therapist, special educator, teacher of social pedagogy).	Skolēnu skaita attiecība pret atbalsta personālu (psihologs, logopēds, speciālais pedagogs, sociālais pedagogs).	(2) Accessible, quality education for everyone.	Indicators included in the previous EDG for 2014-2020 –,modified
GE.4	Proportion of children involved in non-formal and interest-related activities.	Bērnu un jauniešu, kas iesaistīti neformālās un interešu izglītības aktivitātēs, īpatsvars %.	(2) Accessible, quality education for everyone.	Indicators included in the previous EDG for 2014-2020
GE.5	Average wages of education workers compared to average wages in country.	Izglītībā strādājošo vidējā darba alga (bruto) salīdzinājumā ar vidējo darba algu valstī, %.	(1) Teaching and academic excellence. (4) Sustainable education systems and effective resource management.	Indicators included in the previous EDG for 2014-2020
GE.6	Ratio of students to full-time equivalent teachers.	Skolēnu/pilnas slodzes skolotāju skaita attiecība.	(2) Accessible, quality education for everyone.	Indicators included in the previous EDG for 2014-2020 – modified
GE.7	Proportion of students who graduate (percentage of students who enter and complete an upper secondary vocational programme).	Absolventu proporcija/Izglītības dokumentu ieguvušo proporcija.	(2) Accessible, quality education for everyone.	Indicators from the "Education quality monitoring system development and implementation" project
GE.8	Proportion of students who continue at the next level after graduation.	Izglītojamo īpatsvars, kuri turpina mācības nākamajā izglītības pakāpē.	(3) Future skills for future society.	Indicators from the "Education quality monitoring system development and implementation" project
GE.9	Share of full-time equivalent teachers out of total.	Uz pilnu slodzi nodarbināto pedagogu skaits salīdzinājumā ar kopējo pedagogu skaitu.	(1) Teaching and academic excellence. (4) Sustainable education systems and effective resource management.	Indicators from the "Education quality monitoring system development and implementation" project
GE.10	Percentage of students experiencing bullying, corporal punishment, harassment, violence, sexual discrimination and abuse in PISA.	Skolēnu proporcija, kas piedzīvojuši dažāda veida pāridarījumus skolā (ieskaitot uzmākšanos, seksuālo diskrimināciju, vardarbību, u.c.).	(2) Accessible, quality education for everyone.	Additional indicators proposed by the OECD – PISA
GE.11	Index of students' sense of belonging.	Indekss, kas raksturo skolēnu piederības izjūtu skolai.	(2) Accessible, quality education for everyone.	Additional indicators proposed by the OECD – PISA

Indicator GE.1. Share of low and high achievers in PISA

Main comments from participants during the workshop

General comments: This indicator was considered clear and relevant by most participants.

Main challenges: The main concern raised by stakeholders regarding this indicator was the lack of coherence between international and national assessment measures, which means that assessments sometimes go in different directions. It is unclear whether the education sector should emphasise improving the skills and competencies tested in PISA or those in the more frequent national assessments. There was clear agreement that it is important to have regular measures of progress (not only every three years, as is the case with PISA), but that these assessments should be aligned. Moreover, it is also important to measure learning outcomes at earlier ages.

Proposals for modifications/additions: The dispersion of the results should be assessed in addition to the general outcomes to ensure that everyone in the country is progressing.

Practical implications: In addition to the national-level analysis, participants highlighted the importance of also analysing results at the school level.

Reflections from the OECD

This indicator is robust and relevant, and should be part of countries' education monitoring strategies. Although the point about coherence with national assessments is relevant, it is important to note that PISA is designed to test competencies and skills, not curricular material.

As mentioned by one of the participants, it is also important to assess the dispersion of PISA results. However, analysing the dispersion may not be enough, as it is also important to understand whether the dispersion is related to equity variables, such as gender or students' socio-economic background. An important indicator that can be used to monitor the equity level in a system is the percentage of the variance in PISA tests, explained by the PISA socio-economic index (ESCS).

Indicator GE.2. Percentage of digital teaching resources out of total resources

Main comments from participants during the workshop

General comments: This indicator was retained more as a signal that it is important to have an indicator on digital resources than due to the value of the indicator itself. Participants questioned both the clarity and the relevance of the indicator as it is currently defined.

Main challenges: The main question raised was whether the indicator on digital resources should measure availability (input), use (process) or skills (outcome). No consensus was reached, and most participants agreed that there is a need for at least two indicators, one of which should be on the skills of students. There is a concern that this indicator may lead to the conclusion that more digital resources are always better. There were also questions on the definition of a digital resource (i.e. tablets, smart boards, etc.).

Proposals for modifications/additions: A minimum, necessary level of digital resources should be set (e.g. one smartboard per classroom) and the indicator should only measure whether or not this minimum level is met. This would avoid the misinterpretation that digital resources are always better than non-digital, and that the percentage of digital resources should always increase. There is also a need to develop a separate indicator on the digital skills of students, since the availability of resources does not guarantee that they are being used and that skills are being developed.

Practical implications: This indicator is relevant at the school and local levels, but it is unclear who would be responsible for providing these resources.

Reflections from the OECD

The indicator as it is currently defined is not specific or measurable enough. Even if "digital teaching resources" were defined, it would be extremely challenging to reach a common understanding of the denominator "total teaching resources". If the indicator were meant to measure the availability of digital teaching resources, it would be better defined in more measurable terms, such as the number of computers/tablets/smartboards per student. Defining a minimum level for the most important digital teaching resources and measuring the indicator as yes/no is another option.

Indicator GE.3. Ratio of students to support personnel (psychologist, speech therapist, special educator, teacher of social pedagogy)

Main comments from participants during the workshop

General comments: There was little disagreement on the importance of measuring the availability of these resources, although there was a lot of discussion on the best approach. In order to best design this indicator

it is important to take into account how the provision of these services is structured in Latvia. According to participants and experts, it is common for these services to be provided at the municipality level. For example, a municipality has only one psychologist who is responsible for visiting all schools. On a related note, participants also raised the importance of enacting some legal changes to ensure that parents cannot hide their child's diagnosis, for example, a doctor's diagnosis should be directly transmitted to schools. They also stressed the link between this indicator and the importance of early diagnoses in order to ensure proper treatment and care.

Main challenges: The main concern with this indicator was how to interpret the results without taking into account the differences in demand across schools, municipalities, levels of education and even across the different specialties needed. Questions were raised about whether the target ratio should be the same everywhere in the country, despite differences in demand.

Proposals for modifications/additions: Given that support personnel are often employed by the municipality or on a part-time basis, this indicator should estimate the availability of these resources using work time instead of the number of people. Other discussed modifications were: 1) disaggregate by level of education as the target for this indicator at the pre-primary level would be very different from the one in general education; 2) disaggregate by type of support personnel as some types of support personnel may always be needed, whereas others will depend on the demand (for example, a speech therapist should be present in all pre-primary schools, but not necessarily in all general education schools); and 3) a different "minimum" ratio should be set for each type of personnel and for each level of education.

Practical implications: Given the structure of provision, this indicator means different things at different levels. There may be one psychologist available full-time at the municipality level, but who is only available in a given school for two hours a day. It is therefore relevant to calculate the indicator separately (not aggregated) at both the school and municipality levels.

Reflections from the OECD

This indicator is composed of several different indicators – one for each specialty listed. A combined indicator would make little sense and be of limited use. Two important points were raised during the workshop that must be taken into account. First, the indicator should be calculated using working time instead of number of people. This means that it would estimate the number of hours (not the number of people) available to each student. Second, this indicator must be calculated and benchmarked separately per specialty and per level of education.

Special needs education must be considered separately, as the expected ratio and the demand for specialties are likely to differ considerably.

Indicator GE.4. Proportion of children involved in non-formal and interest-related activities

Main comments from participants during the workshop

General comments: This indicator incited some of the most heated debate among participants. First, there was a discussion on the relevance of the indicator and its objective: is it meant to foster well-rounded individuals, or does it imply that non-formal education can compensate for formal education?

Main challenges: The potential double counting of students seems to be a serious concern, especially as it is very common for students to enrol in more than one activity. Other doubts were expressed about the scope of this indicator. Participants were doubtful about whether it should include only activities that take place in schools, as well as whether it should cover only publicly funded activities or include all non-formal, private activities. Participants also questioned how this indicator would be related to the funding of special-interest activities and if there would be a prioritisation for some types of activities (i.e. science,

technology, engineering and mathematics [STEM] related activities). Finally, the cost-effectiveness of the indicator was discussed: how difficult would it be to collect reliable data (removing the double counting) compared to the benefit of this indicator?

Proposals for modifications/additions: The indicator should be defined as the share of students enrolled in at least one activity to avoid double counting issues. This indicator would particularly benefit from disaggregation by socio-economic status. Experts highlighted that it is very common to have "active" children, who tend to come from more advantaged families and who participate in several different activities, and other "less active" children, who tend to come from disadvantaged families and not participate in any activity. The indicator should show the distribution of participating students by type of activity.

Practical implications: This indicator would be relevant at school, municipal and national levels.

Reflections from the OECD

This indicator requires significant development. Not only are the definitions and scope unclear, but there is no clear data source. In order to avoid double counting and to have the benefit of socio-economic disaggregation, this indicator may be best suited to a household survey data collection.

Indicator GE.5. Average wages of education workers compared to average wages in country

Main comments from participants during the workshop

General comments: There was overwhelming agreement on the importance of this indicator.

Main challenges: The main concern regarding this indicator is the difference in the legal working time of teachers versus all other workers in the country. The established statutory working time is 30 hours a week for teachers compared to 40 hours a week for other workers. This difference in working time must be taken into account when comparing the salaries of these two categories.

Proposals for modifications/additions: The indicator should take into account the different working times of teachers vs. other workers.

Practical implications: This indicator was deemed most relevant at the national level, although regional indicators may be interesting if able to adjust to different costs of living.

Reflections from the OECD

This indicator is currently calculated at the international level and is published every year in the OECD's publication "Education at a Glance" (OECD, 2019[5]), where more details on definitions and methodology can be found.

There are two variants of this indicator: 1) teachers' actual salaries relative to earnings of full-time, full-year similarly educated workers; and 2) teachers' actual salaries relative to earnings for full-time, full year workers with tertiary education. The first indicator covers the direct comparison between similar employees working in different fields, while the second compares teachers' salaries to the highest average salaries (in terms of educational attainment) in the country. The relative value of each indicator will depend on the composition of teachers' educational attainment in Latvia.

The question of how to break this indicator down by level of education should be looked at carefully, as there could be issues with sample size.

Indicator GE.6. Ratio of students to full-time equivalent teachers

Main comments from participants during the workshop

General comments: This was the only indicator unanimously selected as one of the most important indicators by participants. Participants mentioned that it is important to distinguish this indicator from class size, since the student-teacher ratio is a measure of available resources and not of the number of students in each classroom.

Main challenges: It is important to clarify who would be included in the calculation. For example, it is important to distinguish between teachers and teaching assistants or other support staff.

Proposals for modifications/additions: See point below on level of analysis.

Practical implications: This indicator should be calculated at the school level as it should reflect the availability of teachers to students. This is particularly important given that it is common for teachers to work part-time in several different schools. If the indicator were calculated at the municipal level, one teacher who works part-time in two different schools would count as a one teacher in full-time equivalent units. However, that teacher is only available for half the time in each school. Therefore, the aggregation of this indicator to the municipal and national levels should be an average of the school-level result.

Reflections from the OECD

This is a well-established indicator, which is also calculated at the international level (OECD, 2019[5]). However, as explained above the indicator calculated at the national level conveys different information. Students should also be counted as full-time equivalent in this indicator, although this is a minor issue at the general education level given that most students are enrolled full time. The internationally agreed definition of "teacher" can be found in the "OECD Handbook for Internationally Comparative Education Statistics" (OECD, 2017[9]), and may be a useful starting point for defining the scope of the indicator.

Indicator GE.7. Proportion of students who graduate (percentage of students who enter and complete an upper secondary vocational programme)

Main comments from participants during the workshop

General comments: Although the methodology for the indicator is not clear from the indicator's description, there was agreement among participants that it should be measured using the true cohort methodology, i.e. by following individual students using student registries. Using this methodology, the indicator is considered clear and robust by most participants.

Main challenges: The only main concern raised regarding this indicator was how to consider students who leave the country.

Practical implications: Because of transfers across schools, programmes or municipalities, this indicator is most relevant at the national level.

Reflections from the OECD

This indicator is currently calculated at the international level under the name of "completion rates" and is published every three years (alternating between upper secondary and tertiary education) in the OECD's publication "Education at a Glance" (OECD, 2019[5]), where more details on definitions and methodology can be found.

At the international level, the indicator should be calculated using two different timeframes: 1) the theoretical duration of the programme in which have students entered; and 2) the theoretical duration plus two years (upper secondary) or three years (tertiary education). The additional timeframe is important in

order to take into account delays in completion, although the number of years of delay may be adjusted to the national context.

The following of individual students also allows for the tracking of students who transfer to different programmes (i.e. from general to vocational) so that they do not count as having dropped out. Transfer rates can also serve as an explanation for delayed completion.

Indicator GE.8. Proportion of students who continue at the next level after graduation

Main comments from participants during the workshop

General comments: This indicator was considered clear and robust, but stakeholders participating in the workshop raised concerns regarding its relevance as they felt there was no serious problem of entrance into upper secondary or higher education. In particular, it was mentioned that entrance into higher education was available for everyone given the high number of higher education institutions in the country.

Main challenges: The main challenge raised was how to deal with students who go abroad, although there was recognition that some may be taken into account (the ones that request public funding) and that the remaining share is relatively low and unlikely to significantly bias the indicator.

Proposals for modifications/additions: This indicator should be measured at both the end of lower secondary education (percentage of students who move on to upper secondary) and at the end of upper secondary education (percentage of students who move on to tertiary education).

Practical implications: This indicator was deemed more relevant at the national level.

Reflections from the OECD

Even if entrance into upper secondary or higher education is not selective, this indicator may still be relevant in order to measure the proportion of students who choose to pursue further studies.

It would be relevant to disaggregate the indicator by general and vocational upper secondary education. In other words, the share of students who graduate from lower secondary and continue in general vs. vocational upper secondary programmes, and the share of students who graduate from general vs. vocational upper secondary programmes and continue to tertiary education.

Indicator GE.9. Share of full-time equivalent teachers out of total

Main comments from participants during the workshop

General comments: Participants highlighted the importance of this indicator to monitor whether schools have a healthy core of teachers who are present full time in schools. There was a discussion on whether this indicator may be misinterpreted as implying that “part-time teachers are bad”. It is important to understand that there will be part-time teachers; subject-specific teachers in particular may not have a full workload, even if they work in only one school.

Main challenges: Some participants raised a concern that many teachers are still students, which may influence this indicator as they will be interpreted as a part-time teacher but their circumstances are different.

Proposals for modifications/additions: In order to clarify the objective of the indicator, it was suggested that a minimum level is established (e.g. at least 40% of full-time teachers) and to develop the indicator as meets/does not meet the minimum level required.

Practical implications: This indicator would be relevant at the school level – see discussion under practical implications of the indicator “Ratio of students to full-time equivalent teachers”.

Reflections from the OECD

The relevance of this indicator will depend on the national context and the prevalence of part-time contracts among teachers. It may be difficult to interpret changes in this indicator's values, and it does not provide very actionable information. If the goal of the indicator is to assess teachers' working conditions in terms of contract type (full time vs. part time) then it may be useful to develop an indicator that combines the share of teachers who work part time with the share among that cohort who choose to work part time. This information is collected every five years by the OECD's TALIS.

Indicator GE.10. Percentage of students experiencing bullying, corporal punishment, harassment, violence, sexual discrimination and abuse in PISA

Main comments from participants during the workshop

General comments: This indicator was considered highly relevant by most participants. The indicator fits within Latvia's framework for educational quality, where "safety and well-being" is one of the dimensions and should be monitored regularly.

Main challenges: The main concern expressed by participants was related to cases of under-reporting.

Proposals for modifications/additions: The same questions should be asked to students, teachers, principals and parents, and the answers should be compared in order to assess patterns of over-reporting or, more likely, under-reporting. The indicator should be collected more regularly than the PISA cycle, and for younger students as well.

Practical implications: This indicator would be relevant at school, municipal and national levels.

Reflections from the OECD

The existence of a national-level indicator for 15-year-olds should not be a sign that schools do not need to monitor this issue more regularly within their premises. The PISA indicator provides a robust, national-level indicator that can indicate any major changes in trends, but this should be coupled with close monitoring of the subject by school headteachers. It may be useful to develop a module with specific questions that can be added to student surveys already in place, or that may be put in place in the future. This way, schools can adopt this module and run their own student surveys to monitor this indicator more closely. Some capacity building or detailed instructions may be needed to ensure that the results of the survey undertaken by schools are reliable and representative.

Indicator GE.11. Index of students' sense of belonging

Main comments from participants during the workshop

General comments: This indicator was kept more as a signal that there should be an indicator on student well-being, than for the indicator itself. Participants would like to have a broader definition of "sense of belonging" that includes a sense of emotional well-being.

Main challenges: The set of questions to be asked to students must be well defined and reflect the main objective of the indicator.

Proposals for modifications/additions: The indicator should measure student well-being more generally (not only through a sense of belonging) and data should be collected more regularly.

Practical implications: Given that the data currently come from PISA, they would be available at the school level (for participating schools) and at the national level. However, similar indicators could be developed using national student surveys to provide this information for every school and municipality.

Reflections from the OECD

It is very important to have an indicator on student well-being, although it may be more relevant to measure this indicator on a regular basis and across all schools (as opposed to relying on PISA data that comes out every three years, mostly at the national level). One solution could be to develop a national standardised student/household survey to collect this information. Another perhaps more feasible solution could be to develop a module with specific questions that can be added to any student surveys already in place, or that may be put in place in future. Some capacity building or detailed instructions may be needed to ensure that the results of the survey undertaken by schools are reliable and representative.

The current PISA indicator is an index based on several student questions. As is the case with most indices, the value of the indicator has little meaning in and of itself. Calculating an indicator as the share of students who report feeling comfortable/safe/belonging in school would be clearer and would improve the interpretability of the results.

Main gaps in general education indicators

Teacher supply and the attractiveness of the teaching profession

One of the indicators thoroughly discussed during the workshop that did not make the final list was "the proportion of teachers under the age of 29". Although everyone agreed that attracting more teachers to the profession is of utmost priority in Latvia, some were against having an indicator for this because they believed that the age of teachers should not matter. Others argued that both changes were needed: more teachers need to join, and the profession needed to become younger to foster dynamism. There was also some discussion on whether the specific age of 29 was relevant, with some participants arguing that it is too young.

At the international level, the age distribution of teachers is a well-established indicator that is useful for monitoring the evolution of how the profession's workforce is ageing. However, a high share of young teachers does not necessarily reflect only a positive outcome – it could be that young people join the profession but leave within a few years.

One of the proposals was to develop an indicator to measure the number of new teachers joining the profession who stay for at least five years. The reasoning behind this indicator relates to the observed pattern that most attrition happens within the first few years, and that teachers who stay for at least five years tend to continue in the profession until retirement. This is an interesting proposal that should be explored further.

The methodology for a similar indicator in the Sustainable Development Goal agenda (SDG 4) – "teacher attrition rate" – is currently being further developed. The methodology, as currently defined in the metadata document, has several drawbacks (UNESCO Institute for Statistics, 2018[10]). For example, it considers that teachers who change education level have "left" the profession and does not take into consideration retirement. However, this methodology is being further developed in working groups at the international level, and new potential questionnaires and sources are being tested. This could serve as a useful guide in the near future.

Teacher training and capacity development

Although teachers' professional development is a recognised policy priority area, the related indicator discussed – "percentage of teachers involved in continuing education activities" – was not selected. The reasoning behind the non-selection of this indicator was that it shows very high values (over 90% participation), but does not take into account the relevance, duration or quality of activities. Therefore, participants believed that the indicator does not provide useful information.

In order to increase the relevance of indicators to monitor teachers' professional development, it may be important to categorise activities based on content, mode (in person or online) and duration. Research

evidence and TALIS findings agree that even though traditional training in the form of courses or seminars can be an effective tool, school-embedded professional development, such as peer-learning opportunities, tends to have a greater impact on teaching practices and can reduce the cost of training (OECD, 2019[4]).

At least three TALIS indicators explore the issue of the relevance of teacher training programmes:

- Relationship between teachers' self-efficacy and participation in impactful professional development.
- Percentage of teachers who report needing further professional development, by topic.
- Percentage of teachers who report feeling “not at all”/“somewhat”/“well” /“very well” prepared, by element of teaching.

Equity

None of the current indicators monitor the question of equity. A common way of monitoring this for a given indicator is through parity indices,[3] where the indicator value for one group is divided by the indicator value for another group.

The most relevant disaggregation to be assessed will depend on each country’s national context. According to the experts, the most relevant disaggregation in Latvia would be rural vs. urban. The gender parity index may also be relevant for specific indicators at other levels of education (e.g. participation in STEM), but was considered less relevant for the general education indicators. Regarding economic variables such as level of family income, participants agreed that this could be relevant for some indicators (e.g. participation in interest-related activities), but highlighted that these data are not collected administratively and are unlikely to be collected in the near future. The potential solution may be to use survey data.

Financing of education

Only one indicator regarding the financing of education was discussed: “spending per student”. Participants understandably argued that this indicator was not specific enough and therefore did not convey very actionable information. It was also not clear whether the indicator included both public and private funding, or which types of expenses were included. Nevertheless, an overall measure of the spending in education is an important indicator of the amount of resources devoted to education.

An indicator on spending per student has been suggested for both higher education and vocational education and training (VET), and should also be measured for general education.

Inclusive education

Although several indicators related to inclusive education were discussed, none made the final list of indicators for general education. This was considered a more relevant topic for pre-primary education, although the monitoring of the inclusiveness of general education remains important. One of the indicators – “percentage of special needs students in inclusive education” – could be used to monitor the topic both in pre-primary and general education.

School leadership and governance

School leadership and school governance are included in Latvia’s new directions for education, but have not been addressed by the final list of indicators selected for general education. Given that these topics are cross-cutting in nature, it is important to assess this gap, taking into account the full list of indicators for all levels of education.

Potential EDG indicators for vocational education and training

This section describes potential indicators for vocational education and training (VET). Table 3 provides an overview of the indicators in English and Latvian with suggestions for which EDG policy objectives they could be relevant and the source of the indicator. Each indicator is then presented individually with comments from workshop participants and reflections from the OECD. Remaining gaps for vocational education and training indicators are also highlighted.

Table 3. Overview of potential indicators for vocational education and training

Indicators discussed by participants during the two-day workshop in Latvia

No.	Indicators in English	Indicators in Latvian	Possible link to policy objectives	Source of the indicator
VET.1	Proportion of students in general and vocational education at the secondary education stage.	Skolēnu proporcija vispārējā un profesionālajā izglītībā vidējās izglītības pakāpē.	(2) Accessible, quality education for everyone. (3) Future skills for future society. (4) Sustainable education systems and effective resource management.	Indicators included in the previous EDG for 2014-2020
VET.2	Proportion of students continuing education after graduation.	Izglītojamo īpatsvars, kuri turpina mācības nākamajā izglītības pakāpē.	(3) Future skills for future society.	Indicators from the "Education quality monitoring system development and implementation" project
VET.3	Proportion of graduates who secured employment in the field of their studies.	Absolventu/izglītības dokumentu ieguvušo īpatsvars, kuri nodrošināja darbu mācību jomā.	(2) Accessible, quality education for everyone. (3) Future skills for future society.	Indicators from the "Education quality monitoring system development and implementation" project
VET.4	Share of students in work-based programmes.	Izglītojamo īpatsvars darba-vidē balstītu mācību programmās.	(3) Future skills for future society.	Additional indicators proposed by the OECD – EAG
VET.5	Students who have received support to reduce early school leaving.	Izglītojamie, kuri saņēmuši atbalstu priekšlaicīgas mācību pārtraukšanas samazināšanai.	(2) Accessible, quality education for everyone.	Indicators from the "Education quality monitoring system development and implementation" project
VET.6	Drop-out rates.	Mācību pametušo izglītojamo skaits/apjoms.	(2) Accessible, quality education for everyone.	Additional indicators proposed by the OECD – EAG
VET.7	Percentage of students who enter an upper secondary vocational programme and complete it within the theoretical duration.	Skolēnu %, kuri iestājas profesionālās vidējās izglītības programmā un pabeidz to mācībām paredzētajā laikā.	(2) Accessible, quality education for everyone.	Additional indicators proposed by the OECD – EAG
VET.8	Proportion of teachers who are under the age of 29.	Pedagogu īpatsvars, kuri ir jaunāki par 29 gadiem.	(1) Teaching and academic excellence.	Indicators from the "Education quality monitoring system development and implementation" project

No.	Indicators in English	Indicators in Latvian	Possible link to policy objectives	Source of the indicator
VET.9	Proportion of field specialists in teacher positions.	Pedagogu īpatsvars, kuri ir praktiķi/speciālisti ar praktisku pieredzi savā mācību jomā.	(1) Teaching and academic excellence. (3) Future skills for future society.	Indicators from the "Education quality monitoring system development and implementation" project
VET.10	Quality of teachers' professional life (teachers' job satisfaction).	Pedagogy profesionālās dzīves/attīstības kvalitāte (Pedagogu apmierinātība ar darbu).	(1) Teaching and academic excellence.	Additional indicators proposed by the OECD – TALIS
VET.11	Annual expenditure per student by level of education.	Ikgadējie izdevumi uz vienu skolēnu/audzēkni pa izglītības līmeņiem.	(4) Sustainable education systems and effective resource management.	Additional indicators proposed by the OECD – EAG

Indicator VET.1. Proportion of students in general and vocational education at the secondary education stage

Main comments from participants during the workshop

General comments: This indicator was included in the previous EDG, as the government had adopted the target of a 50-50 split between general education (GE) and VET student participation in a co-ordinated effort to increase the perception of VET quality. This policy objective was set to improve how skills match with the labour market.

Main challenges: In the previous EDG, the benchmark was set to a level that was not achievable in Latvia. Over the seven-year period of the strategy, improvement in meeting the target was negligible, with the proportion between VET and GE fluctuating around 32% in VET and 68% in GE. If Latvia includes this indicator in the next strategy, it will be important to set a more realistic target.

Proposal for modification/additions: In both workshops, participants compared this indicator with another indicator: "participation rates in VET programmes among the population in the relevant age". This indicator is available from OECD sources and the Ministry of Education and Science.

The two indicators target two different underlying populations and two different policy objectives. The first indicator – the proportion of students in GE and VET – measures the division between GE and VET programmes of the student population by these levels of education. The policy objective that this indicator is effectively measuring is the increase in the proportion of students in VET, with respect to GE programmes.

The second indicator measures the proportion of VET participation related to the total population in the relevant age group. The policy objective in this case is to increase participation in VET programmes among the entire population of youth, including those not in employment, education or training (NEET) and young workers.

Participants selected the indicator included in this list, although the discussion was rather mixed.

Practical implications: The indicator is available from international sources (OECD, 2019[5]), and measured every year by Ministry of Education and Science.

Reflections from the OECD

The OECD encourages additional reflection on the selection of this indicator. Although increasing participation in VET is important for Latvia, changing cultural behaviour and the preferences of students has proven difficult. If the main objective of this indicator is to assess the attractiveness of VET programmes, the government would be able to monitor progress more closely and detect changing trends faster with the adoption of the following indicator: "share of lower secondary graduates who enrol in VET

vs. general upper secondary education". As this indicator only looks at first-year upper secondary students it will reflect changes in the attractiveness of VET programmes more quickly than the current indicator that looks at the entire population of upper secondary students. The proposed indicator is also a more direct measure of the attractiveness of VET programmes as it does not include students who may have returned to education later in life, second-chance programmes, etc.

If the objective is to assess the share of the population gaining technical skills, another option would be to monitor the enrolment rate of specific age groups in VET programmes. It would also be important for the government to consider groups not participating in education, such as those who are NEET and young workers. These categories are the ones most in need of additional training, specifically in VET. Increasing participation rates in VET for specific groups may be more effective for Latvia, and more achievable than increasing participation in VET with respect to GE.

Indicator VET.2. Proportion of students continuing education after graduation

Main comments from participants during the workshop

General comments: This indicator measures the number of graduates continuing their studies in any education institution one year after graduation, divided by the total number of graduates one year after graduation. This indicator was selected by participants to be included in the strategy, and is linked to the policy direction of improving the overall quality of education. Participants highlighted the importance of boosting the quality of VET programmes to attract new students and improve student outcomes. In the context of the EDG, it will be important to measure the quality of VET programmes through student outcomes.

Participants highlighted that quality in VET should be measured not only with work-related outcomes, but also with the further academic results of VET students. Students proceeding with their studies into the next level of education might be able to specialise in technical colleges or start a university career. This aspect has been deemed as an important signifier of quality for VET institutions.

Main challenges: Participants asked for clarification on the distinctions between different levels of education. In Latvia, technical colleges are considered to be a continuation of VET schools at the higher education level. It will be crucial to ensure that this indicator captures the transition between the two levels, and not only the transition of students continuing their studies at universities.

Proposal for modification/additions: None.

Practical implications: This indicator is measured once a year by the State Education Information Service (SEIS). Data are available for the Ministry of Education and Science and at state and institution levels for primary and secondary VET institutions.

Reflections from the OECD

The OECD welcomes the use of this indicator. One crucial aspect to consider for the government is how to set the indicator's target. It is not clear what the desired improvement in the proportion of students continuing their studies should be for Latvia. It will be important to have an inclusive political process in order to decide on the benchmark and set realistic targets based on current data.

Indicator VET.3. Proportion of graduates who secured employment in the field of their studies

Main comments from participants during the workshop

General comments: This indicator measures the number of graduates from vocational education who secured employment or became self-employed in the field of their studies within three years of graduation,

divided by the total number of graduates. Participants in the two workshops highlighted the importance of job market results for VET students and of including a measure of VET programme effectiveness in this dimension.

Main challenges: Participants compared similar indicators and evaluated their effectiveness in monitoring the future results of VET students in the labour market. Participants agreed that in order for this indicator to function properly there needs to be a clear definition of the fields of studies and the link between field of study and sector of employment. The condition that graduates need to secure employment in the field of their studies could be a source of potential mismeasurements, if mapping between the field of study and sector of employment is not sufficiently flexible. A link between field of study and sector of employment that is too strict might also not take into account career advancements outside the original field of studies (i.e. self-employment).

For VET programmes that give graduates the skills to find a job in different sectors – such as IT technicians and specialists – the current indicator could imply worse performances compared with more traditional programmes if not properly defined. The indicator should be designed to take into account the flexibility that students in certain fields of study are able to develop, and measure it as a sign of quality, rather than the opposite.

The main alternative to this indicator discussed was the indicator "employment rate by educational attainment", which has the advantage of not restricting the share of graduates to those who work in the same field of studies, but considers the entire pool of graduates with a job. While this alternative might solve the potential issues by measuring employment with a more general approach, it also raises some additional concerns, such as the fact that every type of employment would be considered as a positive outcome for graduates, irrespective of the graduate's education. In this case, the indicator was not used, as it was considered inefficient in measuring the effectiveness of VET programmes in linking graduates to the job market.

Proposal for modification/additions: Clarification of the definitions of field of studies and sectors, and their respective connection, is needed.

Practical implications: Indicator data are collected once a year by the Ministry of Education and Science in the context of the graduate monitoring system. Data are available at state and institution levels for primary and secondary VET institutions.

Reflections from the OECD

This indicator provides relevant information on the alignment between VET programmes and the labour market, but the unclear alignment between fields of study and occupations poses some concerns for its interpretation. A more general indicator that measures the employment rate of VET graduates needs to be monitored as a complement to this indicator to provide a fuller picture. A suggestion would be to use the "employment rate of recent VET graduates" indicator. With this, the definition of recent graduates can be adapted depending on data availability, sample size, etc. usually ranging from one to five years after graduation. It should be harmonised with the monitoring of the same indicator for higher education.

Latvia also collects information on the earnings of recent graduates through labour force surveys. This would also be a relevant indicator to assess the transition between vocational education and the labour market.

Indicator VET.4. Share of students in work-based programmes

Main comments from participants during the workshop

General comments: This indicator was overall considered among the most important by all participants in the workshops. Participants highlighted the crucial role of work-based programmes in supporting students

to develop relevant skills for the workplace and in ensuring a better match between VET curricula and the skills demanded by employers.

Proposal for modification/additions: This indicator is published annually in "Education at a Glance" (OECD, 2019[5]), which measures the share of students enrolled in combined school- and work-based programmes among those enrolled in all VET programmes (school-based and combined school- and work-based). This indicator relies on the international definition of combined school- and work-based programmes used by Eurostat, the OECD and UNESCO. Programmes are classified as school-based only if at least 75% of the curriculum is presented in the school environment, and as combined school- and work-based if between 10% and 75% of the curriculum is school-based and the remaining part is work-based. Entirely work-based programmes (e.g. apprenticeships) are excluded from international reporting. In addition to existing practical training, in 2015 Latvia introduced a new type of combined school- and work-based learning (i.e. apprenticeships), where students work in enterprises and receive a salary for their work. Participants proposed modifying the indicator and measuring the share of students enrolled only in the new programmes.

Practical implications: Since the indicator from "Education at a Glance" does not provide granularity between new and traditional types of programme, the source for the modified indicator will need to be national.

Main challenges: If this indicator is available from the Ministry of Education it will be important to clarify the definition of work-based learning in relation to international definitions, and then effectively communicate that in the EDG.

Reflections from the OECD

Latvia has successfully implemented VET work-based learning programmes. Ensuring and increasing the provision of these programmes would strengthen the link with workplaces for VET students. However, using the international definition for combined school- and work-based learning does not provide granularity in Latvia's case, as 100% of students in upper secondary VET programmes in Latvia are considered as enrolled in combined school- and work-based programmes. This is a peculiarity of the Latvian system; the only other OECD countries where all vocational programmes are combined school- and work-based programmes are Hungary and Ireland (OECD, 2019[11]).

As a result, this indicator is of little value in monitoring the quality of VET programmes in Latvia and their ability to provide technical training. This indicator should either be changed to rely on a more granular and nationally representative definition of work-based programme that distinguishes apprenticeships (nationally called work-based learning) from practical training (offered in all of Latvia's VET programmes), or it should not be included in the EDG. The OECD welcomes the working group's proposal to use the new apprenticeships programmes as the definition of work-based learning.

Indicator VET.5. Students who have received support to reduce early school leaving

Main comments from participants during the workshop

General comments: This indicator measures the number of students with identified risks of early school leaving who have received support (project PuMPuRS). During the workshop with indicator experts, this indicator was considered crucial for benchmarking improvements by schools in the provision of student support. This aspect was considered particularly important for VET institutions given their historical high levels of drop-out rates. However, during discussions with a broader group of stakeholders the indicator was considered too problematic to use in the EDG, and they therefore proposed that it should be dropped.

Main challenges: The main challenge for this indicator would be to fully implement the project on which it is based and the expansion of data coverage. The indicator is part of a project (PuMPuRS) sponsored by the European Union (European Structural Fund [ESF] funding), and is currently being implemented by the State Education Quality Service (SEQS). At least 80% of municipalities are expected to be involved, covering at least 665 general and vocational education institutions.

A second challenge is the ability of this indicator to capture the quality of support provided for students. Given the current unavailability of quality measurement on student support, the indicator experts in the workshop agreed on the inclusion of this indicator, pairing it with indicator VET.6 on student drop-out rates. This indicator could at least monitor the final desired output: the reduction in early school leaving of VET students.

Different indicators were also discussed during the workshops. The principal alternative solution mentioned was the "proportion of VET institutions with student support available". This indicator was considered too general as it would capture only the availability of student support in the school and not the proportion of students for whom support was available. VET institutions that can effectively support all students at risk would be considered as providing the same type of support as institutions able to serve only a restricted pool of students.

Proposal for modification/additions: The indicator was selected with a few important modifications. In order to capture effectively the availability of support in schools, the indicator could be designed as the ratio of students receiving support over the total population of students at risk of exclusion. Additional effort should also be taken in clarifying the type of support included, as well as the definition of students at risk of exclusion.

Practical implications: The indicator is defined in absolute terms and is collected once a year. The project is funded by the ESF, but data are available for the Ministry of Education and Science.

Reflections from the OECD

The importance of a monitoring system for students at risk is highlighted in the OECD Skills Strategy Latvia. Among its main recommendations for strengthening VET, OECD advice is to establish a VET graduate tracking system to improve the tracking of drop-outs. It would also be important for Latvia to fully develop a comprehensive data source of monitoring before including an indicator in the EDG. If Latvia is not able to fully implement its student monitoring system it might be worth considering a different indicator that is already available. Another effective indicator that could be used in this context is the "ratio of student population to support personnel".

Indicator VET.6. Drop-out rates

Main comments from participants during the workshop

General comments: A reduction in drop-out rates was considered by most participants as one of the main policy objectives for VET. Therefore, the direct monitoring of drop-out rates was considered necessary. As described with indicator VET.5, the drop-out rates indicator complements the monitoring of support activities in VET schools, and could be used as information on student outcomes. Both workshops discussed the use of completion rates instead of drop-out rates. Both indicators might be used in this instance, but participants selected drop-out rates as the best way of monitoring student outcomes.

Practical implications: Data are available for the Ministry of Education and Science and collected by SEIS once per year.

Reflections from the OECD

The "OECD Skills Strategy Latvia: Assessment and Recommendations" report included among its main recommendations for strengthening the skills outcomes of students the reduction of drop-out rates of VET students (OECD, 2019[12]). However, this indicator is included in the next indicator (VET.7), and therefore does not need to be monitored separately. When measuring completion rates using the true cohort methodology, it is also possible to determine the share of students who leave the system without graduating.

Indicator VET.7. Percentage of students who enter an upper secondary vocational programme and complete it within the theoretical duration

Main comments from participants during the workshop

General comments: This indicator was perceived as capturing an important dimension of the effectiveness and efficiency of VET institutions.

Main challenges: It will be important to clarify the exact duration of all curricula and take into account existing differences between programmes, as well as their increasing modularity.

Practical implications: This indicator is published in "Education at a Glance" (OECD) every three years (alternating with the completion of higher education). The OECD study of work-based learning in VET was launched in 2015 with the aim of analysing policy issues, documenting global experience in policy and practice, and delivering key policy messages.

Reflections from the OECD

This is a relevant indicator for education and skills systems where student time to completion is long. For instance, this indicator typically receives significant attention in Nordic countries for higher education programmes.

In the case of VET programmes in Latvia, given that the objective of the government is to increase participation and quality, including an indicator on the time to complete a programme might be a solution to more comprehensively control the performance of the VET system. It will be important for VET institutions to improve capacity and inclusivity without hindering their performance in terms of completion time, which could substantially raise costs for the government.

Latvia should calculate completion rates/drop-out rates using the true cohort methodology (i.e. by following individual students from entry to graduation). This is the most reliable and robust method for calculating completion rates. The OECD's "Education at a Glance" 2020 (to be published in September 2020) will include an indicator on upper secondary completion rates, with special attention on VET programmes. The indicator will include data sent by Latvia and will be helpful in showing the types of analysis that can be done using data collected by the Ministry of Education and Science.

As this indicator can follow students it measures the distribution of students' outcomes by the end of the theoretical duration of each type of programme. In other words, the indicator will show that by the end of the theoretical duration of the programme in which they entered, a certain percentage of students will have graduated from upper secondary education (including those who transferred to another VET programme or to general education programmes), some will still be in education, and some will have left the system without graduating (drop-outs).

At the international level, the indicator should be calculated using two different timeframes: 1) the theoretical duration of the programme the students have entered; and 2) the theoretical duration plus two years (upper secondary) or three years (tertiary education). The additional timeframe is important for taking into account delays in completion, although the number of years of delay may be adjusted to the national

context. Individual student tracking also allows for the tracking of students who transfer to different programmes (i.e. from general to vocational) so that they are not counted as drop-outs. Transfer rates can also serve as an explanation for delayed completion.

Indicator VET.8. Proportion of teachers who are under the age of 29

Main comments from participants during the workshop

General comments: The average age of the teacher workforce is higher than the OECD average, reflecting the low attractiveness of the profession among new generations. This indicator was considered by indicator experts in the workshop as one of the most relevant for the policy direction of fostering teaching excellence (see indicator ECEC.5 for a similar discussion).

However, participants in the second workshop were reluctant to use this indicator as they argued it could not properly measure excellence in the teacher workforce. They proposed two new indicators presented in this section (VET.9 and VET.10).

Main challenges: The discussion covered the potential limits of this indicator in capturing excellence in the teacher profession. Participants highlighted a set of other indicators to be included in the strategy: teacher turnover in the previous academic year, teachers' wages, directors' responsibility, the proportion of field specialists as teachers, and the perception of the quality of teacher professional life. Indicators VET.9 and VET.10 discuss the latter two in detail. Among the other indicators not included in the final list, turnover rates in the previous academic year was mentioned on several occasions as a good indicator for capturing the attractiveness of the profession.

Proposal for modification/additions: One of the main challenges identified with the indicator was the age selected, as 29 was deemed too low for the Latvian system. New proposals were suggested using a higher age.

Practical implications: Data are collected by SEIS once per year and available to the Ministry of Education and Science. This indicator would be relevant only at the national level.

Reflections from the OECD

The OECD recognises the importance of renewing the current teacher workforce. As long as teacher education programmes are providing new teachers with a good command of the latest pedagogical tools and developing the most relevant skills for the profession, new teachers should be in a good position to improve student learning and implement new curricula and reforms in VET programmes. However, teachers already in the profession could provide valuable experience in the classroom, but might need additional training and continuous learning to implement new curricula.

A single indicator on average teacher age in VET programmes does not in itself guarantee a comprehensive measure of the attractiveness of the teaching profession. Teachers need to be motivated and incentivised to stay in the profession, equipped with the latest techniques and learning methodologies, and able to effectively convey relevant knowledge to their students.

Teachers who operate in a school system that does not enhance their capabilities might be incentivised to leave the school and move to a different job outside the sphere of education. In this context, a high rate of turnover would likely be reflected in a younger cohort of teachers, but it is probable that such a system is not providing adequate incentives for teaching excellence.

If this indicator is to be monitored, it is only relevant at the national level. Monitoring this indicator at the institutional level could lead to an unintended pressure to favour young over older candidates. This indicator should be a reflection of the system-level attractiveness of the profession and retention policies, and should not lead to institutional-level policies regarding the age of teachers.

One of the proposals discussed by participants in the workshop's general education group was to develop an indicator to measure the number of new teachers joining the profession who stay for at least five years. The reasoning behind this indicator relates to the observed pattern that most attrition happens within the first few years, and that teachers who stay for at least five years tend to continue in the profession until retirement. This is an interesting proposal that should be explored further.

Indicator VET.9. Proportion of field specialists in teacher positions

Main comments from participants during the workshop

General comments: Stakeholders highlighted this indicator as one of the most relevant for monitoring teacher excellence in VET. Overall, the proportion of field specialists in the teacher workforce of VET programmes was deemed an important measurement of the capacity of VET institutions to relate to the job market and design flexible programmes to develop market-relevant skills.

Main challenges: Participants highlighted the need to better define the characteristics of field specialists and to communicate these effectively within the EDG.

Reflections from the OECD

It is important to clarify how this indicator would be defined. If its aim is to assess the prevalence of field specialists in VET teaching positions it should be calculated as the share of VET teachers who are field specialists over the total number of VET teachers. This would provide relevant information regarding the VET teaching force and the quality of VET programmes.

Indicator VET.10. Quality of teacher professional life (teachers' job satisfaction)

Main comments from participants during the workshop

General comments: Participants during the second workshop suggested the use of this indicator to complement indicator VET.8 on teacher excellence. In order to attract and retain talent in the school system it will be crucial to offer a qualitative professional life to those willing to become teachers. Participants valued teacher survey data as the most effective way of measuring the quality perception of teacher professional life.

Main challenges: The challenge for this indicator would be to consistently measure quality perceptions across the country and ensure good coverage across Latvia's VET system, especially between rural and urban areas. Additional effort is required by the government to ensure that data are available and ready to be used for the purpose of the EDG.

It would also be essential to clearly communicate the definition of quality used in the survey within the EDG.

Practical implications: This indicator needs further research from the Ministry of Education to ensure data availability and interpretability.

Reflections from the OECD

The OECD welcomes the use of an indicator on teacher satisfaction and agrees with the rationale behind its selection. However, it will be important for Latvia to develop a sustainable and tested monitoring system for teachers before considering the inclusion of such an indicator in the EDG. It is crucial for the success of the EDG that all indicators included are already well understood and available for the Ministry of Education and Science and the government, and that there is a possibility of sharing the data with the wider public as part of the communication of EDG monitoring. The limitation of using TALIS is that it is only available every five years and for limited education levels (OECD, 2019[4]). However, the phrasing of the

indicators on teachers' job satisfaction and their methodology can serve as the basis for the development of a national indicator.

Indicator VET.11. Annual expenditure per student by level of education

Main comments from participants during the workshop

General comments: Indicator experts and the broader stakeholder participants in the workshop included this indicator in the final list. Expenditure per student was considered an important measure of government support for VET. There will be a need to measure the resource streams diverted into the system to effectively sustain the increased capacity and support planned by the EDG.

Main challenges: This indicator will be useful for international comparison, but might miss important trends within the country. As it is defined as the national average, the indicator is not able to capture regional divides and inequalities in expenditure per student. The strategy should also include a disaggregated measure of financial support, as institutions might vary in terms of received per-student expenditure.

Proposal for modification/additions: Participants highlighted the need for additional clarity on the definition of this indicator. It would be important to measure expenditure only for VET programmes, including colleges, and consider the private funding of VET programmes as part of total annual expenditure.

Practical implications: Data are published annually in the OECD's "Education at Glance" (OECD, 2019[5]), but with a three-year lag in reference year.

Reflections from the OECD

The OECD welcomes the use of this indicator. Monitoring the financial means available for each student will be crucial during the period covered by the EDG as Latvia is targeting an increase in participation, both for youth and adults, in VET programmes.

Institutions will need to be supported while increasing their capacity in line with the targeted increase in student participation. If Latvia wants to ensure the quality of the system at the same time as increasing participation it will be crucial to maintain, if not increase, the available funding per student.

Another important dimension highlighted by stakeholders is the balance of funding across the territory. It will be crucial for Latvia to ensure adequate support to every institution across the entire territory. This indicator, which measures the average expenditure per student in the country, is not able to capture the variation in financial support for institutions in different regions. The OECD encourages Latvia to disaggregate the monitoring of this indicator to address the fundamental dimension of equity.

The OECD measures expenditure per student in vocational education in the publication "Education at a Glance" (OECD, 2019[5]). The indicator as currently specified includes only public expenditure on VET; however, given that data are available, it would also be relevant to assess the expenditure per student by source of funding, particularly regarding the disaggregation of government versus household spending.

Main gaps in vocational education and training indicators

Equity

It will be important to include dimensions of regional divide in the monitoring of participation and available financial resources. It will also be important to assess whether students' socio-economic status strongly influences their decision to enter a VET programme, and their likelihood of completing it in time. This includes monitoring the availability of support for students and the effectiveness of this support.

Labour market forecasts

An initial proposal from the Ministry of Economics was to include data on skills forecasting. From a long-term perspective, Latvia should develop a system for the prognosis of future programmes that includes the quantum of required workforce. This will improve the alignment between VET programmes and the labour force, and will help improve the attractiveness of VET programmes. Labour market forecasts should also be developed at the regional level. Although Latvia is a relatively small country, participants rightly commented that regional forecasts could differ from national forecasts, for instance because of the development of niche industries in specific regions.

Potential EDG indicators for higher education

This section describes potential indicators for higher education. Table 4 provides an overview of the indicators in English and Latvian with suggestions for the related EDG policy objectives and the source of the indicator. Each indicator is then presented individually with comments from workshop participants and reflections from the OECD. Remaining gaps for higher education indicators are also highlighted.

Table 4. Overview of potential indicators for higher education

Indicators discussed by participants during the two-day workshop in Latvia.

No.	Indicators in English	Indicators in Latvian	Possible link to policy objectives	Source of the indicator
HE.1	Higher education (HE) graduates aged 30-34 (% of population).	Iedzīvotāju īpatsvars vecuma grupā 30 - 34 gadi (ar augstāko izglītību), %.	(2) Accessible, quality education for everyone.	Indicators included in the previous EDG for 2014-2020
HE.2.	Graduates ISCED 5-8 in seven thematic areas (N, %).	Absolventi ISCED 5-8 līmenī septiņos tematiskajos virzienos, N, %.	(3) Future skills for future society.	Indicators included in the previous EDG for 2014-2020 – modified
HE.3	Graduates' main employment by categories 1, 2, 3 according to the professions' classification (%).	Absolventi, kuru pamatdarbavieta pieder 1,2, vai 3 profesiju klasifikācijas grupai, %.	(2) Accessible, quality education for everyone.	Monitoring project indicators) – modified
HE.4	State budget expenditure per student (average euro per year).	Valsts budžeta izdevumi uz vienu studējošo (eiro vidēji gadā).	(2) Accessible, quality education for everyone. (3) Future skills for future society.	Monitoring project indicators – modified
HE.5	Spending on higher education, % of GDP.	Augstākās izglītības finansējums, % no IKP.	(2) Accessible, quality education for everyone. (4) Sustainable education systems and effective resource management.	Monitoring project indicators – modified
HE.6	Full-time equivalent academic staff in relation to the total number of academic staff employed by higher education institutions, %.	PLE akadēmiskā pesonāla attiecība pret kopējo akadēmiskā personāla skaitu augstskolās, %.	(1) Teaching and academic excellence. (4) Sustainable education systems and effective resource management.	Monitoring project indicators – modified
HE.7	Age of academic staff, average.	Akadēmiskā personāla vidējais vecums.	(4) Sustainable education systems and effective resource management.	Monitoring project indicators – modified
HE.8	International students in Latvia (N, % of students total).	Ārvalstu studējošie Latvijā, N, %.	(2) Accessible, quality education for everyone. (4) Sustainable education systems and effective resource management.	Indicators included in the previous EDG for 2014-2020

No.	Indicators in English	Indicators in Latvian	Possible link to policy objectives	Source of the indicator
HE.9	Students from Latvia studying abroad (N, % of students in Latvia).	Latvijas studējošie ārvalstīs, N, %.	(2) Accessible, quality education for everyone.	Indicators included in the previous EDG for 2014-2020 – modified; additional indicators proposed by the OECD
HE.10	Academic staff participating in academic mobility (%).	Akadēmiskā personāla dalība akadēmiskajā mobilitātē, %.	(1) Teaching and academic excellence. (2) Accessible, quality education for everyone.	Indicators included in the previous EDG for 2014-2020

Indicator HE.1. Higher education graduates aged 30-34 (% of population)

Main comments from participants during the workshop

General comments: This indicator was considered clear and relevant by most participants, with its international comparability considered the main strength. It was rated as highly important by participants.

Main challenges: This indicator does not provide any information on the quality of higher education and does not provide information on the proportion of higher education graduates in the total population.

Proposals for modifications/additions: Some participants commented that it could be beneficial to increase the age range used in the measurement of this indicator to better capture the effects of previous policies in higher education. Another suggestion was to measure the proportion of high-school diploma holders aged 20 to 30 who have continued their studies in higher education.

Practical implications: The international comparability of this indicator serves as a major advantage for retaining it as currently formulated. Data for this indicator are easily available. It is a national level indicator.

Reflections from the OECD

This indicator is robust and relevant and should be part of countries' education monitoring strategies.

Indicator HE.2. Graduates ISCED 5-8 in seven thematic areas (N, %)

Main comments from participants during the workshop

General comments: Participants rated this indicator as medium to high importance. Several participants challenged the relevance of the formulation proposed as it does not signal anything about policy priorities.

Main challenges: The debate about this indicator captured the dichotomy of STEM graduates versus those from other thematic areas of studies. Participants varied in their views about the value of highlighting STEM graduates only compared to graduates in all seven thematic areas of studies in Latvia. Those in favour of measuring the proportion of graduates in all seven thematic areas of study argued that it would provide more holistic information on higher education outcomes for the economy. Those in favour of STEM argued that the aforementioned approach would be just the reporting of statistical data and not an indicator that showed some specific development.

Proposals for modifications/additions: There was a proposal to capture arts in a more specific indicator to cover graduates in science, technology, engineering, arts and mathematics (STEAM) rather than in just STEM. The rationale for this proposal, however, was not very clearly articulated, and it seemed to be offered as a compromise solution.

The general education curriculum reform, School 2030, was referred to, and it was suggested that when students enter higher education after graduating high-school under the School 2030 curriculum, it would

be useful to measure their HE graduate outcomes holistically, as the School 2030 has set clear priorities that should also be reflected through to higher education.

Practical implications: This indicator should communicate information relevant for the labour market, and vice versa. Graduates in STEM is also used as an indicator in higher level policy planning documents. Highlighting STEM would signal a priority direction for policies and would be easier to benchmark. This would be a national level indicator.

Reflections from the OECD

The share of higher education graduates by field of education is a commonly used indicator at the international level, and data are available. It would be useful to use the international classification of fields of education (ISCED-F 2013) to ensure comparability with other countries. Although the distribution of higher education graduates among all fields should be monitored, the share of graduates in STEM fields may be a particularly relevant indicator for the country's new EDG.

Indicator HE.3. Graduates' main employment by categories 1, 2, 3 according to the professions' classification (%)

Main comments from participants during the workshop

General comments: This indicator was recognised as highly important by most participants and considered clear and relevant. It allows for the identification of whether higher education degree holders are employed according to the level of their qualification, and thus measures higher education mismatch.

Main challenges: While this indicator allows for the identification of employment match by level of graduate employment, it does not provide information on employment match with field of study. However, participants emphasised that as people are increasingly working outside their field of study, determining mismatch by field of study was not very useful. Thus, participants proposed measuring mismatch by HE graduates working in a profession according to their level of their education. Another challenge of this indicator might be the limited international comparability.

Proposals for modifications/additions: Employment categories 1, 2, 3 in the classification of professions do not include those who are self-employed, but it is important that the indicator also captures these higher education graduates. It might also be useful to limit the age range for graduates, for example looking at 25- to 35-year-old higher education degree holders.

Another way to capture more specific graduate outcomes by employment would be to measure this indicator within one to three years of graduation from higher education.

The average higher education graduate income compared to the average salary in the country could also be considered.

Practical implications: This indicator can be measured by applying the professions' classification framework. It would be important for adjustments to be made so that the indicator captures groups of higher education graduates who have become self-employed. This indicator would provide relevant information at the national level and for institutions of higher education.

Reflections from the OECD

Employment outcomes of higher education graduates can be an important indicator to assess the match between higher education and the labour market. However, there are some important limitations. Self-employment should be included in the indicator, particularly if the indicator looks at a wide age group (e.g. those aged 25-35).

If the purpose is to assess the alignment between higher education institutions and the labour market, a better-suited indicator may be “share of recent graduates who are employed, by category level”. The definition of recent graduates can be adapted depending on data availability, sample size, etc., usually ranging from one to five years after graduation.

Another alternative to professions’ categories could be the use of The Statistical Classification of Economic Activities in the European Community (NACE), i.e. NACE codes.

Latvia also collects information on the earnings of recent graduates through labour force surveys. This would also be a relevant indicator to assess the transition between higher education and the labour market.

Indicator HE.4. State budget expenditure per student (average euro per year)

Main comments from participants during the workshop

General comments: This indicator was rated as medium to high importance by higher education policy stakeholders. The discussion, however, identified limitations in interpreting this indicator.

Main challenges: General information on the average state budget expenditure per student in higher education is of limited use without some specific frame of reference for interpreting this indicator. However, if the indicator is defined in relation to something, i.e. made more specific, its international comparability may decrease.

This indicator by itself does not provide information on the rate of investment in higher education, nor inform how effectively this funding is used.

Proposals for modifications/additions: To make this indicator more relevant it would be helpful to determine a good level of state budget funding per student. This would help to improve its interpretability. Some frame of reference or international comparison would also be useful, with some stakeholders stating that the indicator would only be meaningful if it is adjusted for purchasing power parity (PPP) – which is the case for indicators published by the OECD.

There were several additional suggestions on how this indicator could be modified. One suggestion was to make it more specific by determining the state budget expenses per state budget funded student. However, this proposal was critiqued as decreasing its international comparability. Another recommendation was to create a measure of the percentage of the state budget spent on higher education. An additional measure suggested by policy stakeholders as useful for assessing the accessibility of higher education was the proportion of state budget funded places as a total of all study places enrolling students.

Practical implications: This indicator would be a measure of national relevance.

Reflections from the OECD

The OECD measures expenditure per student in higher education in the publication “Education at a Glance” (OECD, 2019[5]). This measure includes several dimensions and distinguishes by source of funding. The indicator as currently specified includes only public expenditure on higher education. However, given that data are available, it would be relevant to assess expenditure per student also by source of funding, particularly regarding the disaggregation of government vs. household spending.

Indicator HE.5. Spending on higher education, % of GDP

Main comments from participants during the workshop

General comments: Participants rated this indicator as highly important and considered it interpretable, relevant and actionable. Its strength is its comparability to other OECD countries.

Main challenges: There were no major challenges identified for this indicator; however, it was emphasised that public spending on tertiary education as a proportion of GDP should also be identified.

Proposals for modifications/additions: Participants recommended creating an additional measurement for public spending on higher education as a percentage of GDP. Another measure to assess how much the state spends on higher education is higher education expenditure as a percentage of the state budget. Participants argued that this measure would more precisely describe the investment in higher education from local tax revenues.

Practical implications: This indicator was deemed relevant at the national level as well as actionable for higher education institutions.

Reflections from the OECD

This indicator is published annually in "Education at a Glance" (OECD, 2019[5]). It is a relevant indicator for national monitoring, but less actionable than the previous indicator on spending per student. The indicator on spending per student is a better measure of the resources available to students. The indicator on spending as a percentage of GDP can vary considerably depending on economic cycles, and cannot be interpreted as a measure of available resources. In international comparisons, for example, developing countries with lower GDP per capita tend to have considerably higher values for spending as a percentage of GDP, even if this does not imply more resources are reaching the students. Therefore, preference should be given to the indicator on spending per student.

Indicator HE.6. Full-time equivalent academic staff in relation to the total number of academic staff employed by higher education institutions, %

Main comments from participants during the workshop

General comments: There was strong divergence in the perception of this indicator among representatives of the Ministry of Education and Science and other participants. Participants from the Ministry of Education and Science argued that this indicator would show consolidation in workloads for academic staff. Representatives of universities argued that it would not provide reliable information as the workload of academic staff often comprises several contracts within the same university. Participants from other organisations did not see the relevance of this indicator. The group representing different policy stakeholders voted to remove this indicator from the list of higher education indicators.

Main challenges: This indicator would not provide reliable information as it is currently common practice at universities for one academic staff member to be employed in one university on up to four separate work agreements, especially if that academic fulfils academic, administrative and research related tasks.

Proposals for modifications/additions: The current formulation of the indicator was proposed by the discussion group at the Ministry of Education and Science. Other policy stakeholders considered this indicator as uninterpretable and irrelevant, and recommended its removal altogether.

Practical implications: The rationale for proposing this indicator was to have a diminishing effect on the current practice of universities having multiple contracts for a single employee in the same higher education institution. The consolidation of academic staff workloads under a single contract is expected to have a beneficial effect on the well-being of academic staff.

Reflections from the OECD

From the discussions described above, it is clear that this indicator must be developed with consideration of Latvia's context and the reality of contracts in higher education institutions. However, generally speaking this indicator would provide relevant information on the prevalence of part-time contracts. A very high share of part-time contracts can have significant impacts on turnover, well-being, workload, etc.

One of the main challenges regarding this indicator is the definition of tertiary academic staff. For example, how should doctoral students who also lecture be counted? There is an ongoing project in the OECD that aims to improve the classification and definition of tertiary staff at the international level. Latvian delegates to the Indicators of Education Systems (INES) working party and/or to the NESLI network have access to the ongoing discussions, which may be helpful even though the final product has not yet been published.

Indicator HE.7. Age of academic staff, average

Main comments from participants during the workshop

General comments: Although this indicator was recognised as clear and interpretable, participants rated the average age of academic personnel as being of low to medium level importance.

Main challenges: Some participants doubted the usefulness of this indicator when formulated as the average age of academic personnel.

Proposals for modifications/additions: It was suggested that looking only at the mean age of academic personnel is not sufficient, and that it is important to consider the proportion of academic personnel younger than 35 years of age in the total count of academic personnel. Such an indicator would provide information about generational change in academia. It was emphasised that more important than the mean age of the academic population would be measuring the replacement rate among academic staff.

Practical implications: Data for this indicator are available. This indicator is relevant nationally.

Reflections from the OECD

As mentioned in the discussions, this indicator is straightforward and data are easily available. However, it does not seem to be a priority indicator for Latvia's new EDG. If it is to be monitored, it is only relevant at the national level. Monitoring this indicator at the institutional level could lead to an unintended pressure to favour young over older candidates. This indicator is a reflection of the system-level attractiveness of the profession and retention policies.

Indicator HE.8. International students in Latvia (N, %)

Main comments from participants during the workshop

General comments: This indicator was considered highly relevant by most participants.

Proposals for modifications/additions: It was recommended that a distinction be made between international exchange students and international students who study to acquire a degree in Latvia. It was emphasised that international students measured as a proportion of all students in Latvia, rather than an absolute number, would be a more informative indicator.

Practical implications: This indicator would be relevant at the national level and for higher education institutions. Information for this indicator is easily accessible.

Reflections from the OECD

This indicator is published annually in "Education at a Glance" (OECD, 2019[5]). Latvia has one of the fastest growing shares of inward student mobility in tertiary education.

Indicator HE.9. Students from Latvia studying abroad (N, %)

Main comments from participants during the workshop

General comments: This indicator was considered to be of low to medium level relevance by participants. Participants did not see how they could use this indicator to inform decisions as it does not provide much useful information about the higher education system in Latvia.

Main challenges: Acquiring reliable data on students from Latvia who are pursuing a higher education degree abroad.

Proposals for modifications/additions: It was recommended that a distinction be made between students from Latvia studying abroad as exchange students and those who study to acquire a degree abroad. It would be informative to have information about the directions of students from Latvia pursuing a degree abroad.

Practical implications: This indicator would be a national level indicator.

Reflections from the OECD

This indicator is published annually in "Education at a Glance" (OECD, 2019[5]). Data are available by taking into account all countries' submissions. Given that each country reports the number and nationality of international students in their system, it is possible to calculate the number (and share) of Latvians who go abroad. This indicator is an important complement to the indicator on inward international mobility.

Indicator HE.10. Academic staff participating in academic mobility (%)

Main comments from participants during the workshop

General comments: This indicator was considered to be of medium to high relevance by participants.

Main challenges: The definition of the term "mobility" was the major concern for participants when assessing the usefulness of this indicator. Concerns were expressed by some participants that reporting for this indicator may create an additional administrative burden for higher education institutions.

Proposals for modifications/additions: It was recommended that a clear definition of what activities count as academic mobility be provided. Questions remain as to whether this definition would include seminars, lectures, keynote speeches and conference attendance. There should be clear criteria for what data need to be reported as the academic mobility of academic staff.

Practical implications: This indicator would provide information at the national and institutional level.

Reflections from the OECD

It will be very important to clarify which activities will be considered as academic mobility, including by type and duration. If doctoral students are considered as personnel in the universities (this is the case in some countries), would exchange programmes be counted towards this measure? In this case, there might be "double counting" as these doctoral students would also be considered in the previous indicator on Latvian students abroad.

Main gaps in higher education indicators

Student funding on the basis of financial need

Students in need of financial support to access higher education was considered an important measure for the accessibility of higher education. However, it was not included in the final list of indicators proposed by participants from the Ministry of Education and Science for discussion with policy stakeholders as the

current national student support system in Latvia does not recognise financial need as the basis for state budget support to students. Latvia practices a merit-based approach to distributing free study places and stipends to students. The financial hardship of students is dealt with by institutional level policies, depending on the resources available for this purpose.

There seems to be an intention in the Ministry of Education and Science to develop a policy that recognises student financial hardship as legitimate grounds for providing higher education subsidies to students. The feasibility for developing an indicator that measures how the state supports students in financial hardship is contingent on the development of a national policy to define the criteria for recognising students in financial hardship and providing financial support to these students to access higher education. Participants in the discussion recommended including a qualitative data component to better understand how to develop this indicator. It was agreed to address the development of this indicator in the scope of the higher education monitoring project.

Internationally, needs-based student support is recognised as an important measure of improving equity in higher education access. As such, a national policy and indicator measuring its success would be worthwhile to obtain a more accurate description of higher education accessibility in Latvia.

Student drop-out

Student drop-out was recognised as an important indicator when there is information about why students may have dropped out. Participants with first-hand knowledge of the process for how students terminating their studies report reasons for dropping out stated that the current system of self-reporting does not provide reliable information. In the surveys that students are requested to complete by the higher education institution when terminating their studies, students tend to choose the answer “personal reasons”, which may mean anything from financial hardship to a change in their country of residence. Participants recommended conducting a separate study on the reasons for dropping out of higher education that includes a qualitative component to allow for the collection of more detailed data on the reasons for student drop-out. Overall, participants rated this indicator as relevant, but in need of a method for obtaining reliable data on the reasons for student drop-out.

For the indicator on measuring completion or drop-out, Latvia submitted cross-cohort data during the last data collection run by the OECD, and published in indicator B5 of “Education at a Glance” (OECD, 2019[5]). Cross-cohort data calculates completion by dividing the number of graduates in the reference year X by the number of entrants in reference year X-N, where N is the theoretical duration of the programme. By taking into account all graduates, regardless of the time it took them to graduate, the cross-cohort method tends to overestimate completion when compared to the true cohort method (which follows individual students from entry to graduation). The true cohort method is the preferred methodology for the calculation of completion/drop-out rates, and Latvia should use this methodology when this type of data becomes available. More information on the two methodologies and the comparison between them is available in indicator B5 of “Education at a Glance” (OECD, 2019[5]).

Remuneration of academic personnel

In the discussion with participants from the Ministry of Education and Science, the remuneration of academic personnel was identified as a relevant indicator for determining the socio-economic standing of academic personnel in the economy. However, this indicator was not included in the final list of indicators proposed for discussion with higher education policy stakeholders as it was considered too complicated to obtain transparent and reliable data on the income of academic personnel. This complication is related to specifics about how academic personnel are currently employed and the fact that their income is often through various contracts within the same university. Workshop participants also identified the need for some frame of comparison for the income of academic personnel. There is currently work in progress on an academic career development project in Latvia. In the scope of this project, relevant indicators for academic career development will be included and explored. It was agreed to ask the provider of this

expert service to recommend the most appropriate way of comparing the wages of academic personnel with other professions in the economy.

Other important comments regarding what this indicator should capture included wages disaggregated by the level and type of academic programme as there appears to be considerable differences. Another challenge to consider was how to account for the income of academic personnel who are also employed in other sectors such as industry. The dispersion of wages of academic staff (i.e. low, average, high) would be one more way of measuring the remuneration of academic personnel. There is also the question of defining academic personnel (see OECD comments on indicator HE.6).

It was decided not to include the remuneration of academic personnel in the new EDG, but to address this issue within the scope of the higher education monitoring project.

Equity

None of the current indicators monitor the question of equity. A common way of monitoring the level of equity for a given indicator is through parity indices – the indicator value for one group divided by the indicator value for another group. Three indicators presented above could address this issue; however, these indicators were not feasible at this stage due to the lack of reliable data for their measurement.

Gender parity, a common indicator in higher education, was not included in the final list of indicators as these data are being monitored and reported on an ongoing basis as part of international engagements such as Women in Science. There were no strong feelings among participants that gender (in)equity would be a major priority issue at the moment.

Another equity related indicator discussed but not included was the socio-economic characteristics of students choosing first-level higher education degree programmes. International research suggests that students from financially disadvantaged backgrounds tend to opt for these short tertiary programmes so that they can qualify and enter the labour force more rapidly. The relevance of such an indicator was not dismissed entirely, but it was not considered for inclusion at this stage. It might also be relevant to analyse drop-out rates by socio-economic characteristics, as international research also points to the fact that students from disadvantaged backgrounds tend to be more at risk of dropping out.

Similar to other levels of education, data on the socio-economic characteristics of students in higher education is not readily available. This is an important limitation to developing parity indices in higher education.

Potential EDG indicators for adult learning

This section describes potential indicators for adult learning. Table 5 provides an overview of the indicators in English and Latvian, with suggestions for the relevant EDG policy objectives and the source of the indicator. Each indicator is then presented individually with comments from workshop participants and reflections from the OECD. Remaining gaps for adult learning indicators are also highlighted.

Table 5. Overview of potential indicators for adult learning

Indicators discussed by participants during the two-day workshop in Latvia

No.	Indicators in English	Indicators in Latvian	Possible link to policy objectives	Source of the indicator
AL.1	Share of adult education staff participating in professional development.	Pieaugušo izglītotāju personāla skaits, kuri piedalās profesionālajā pilnveidē.	(1) Teaching and academic excellence. (4) Sustainable education systems and effective resource management.	Indicators included in the previous EDG for 2014-2020
AL.2.	Share of adults participating in adult learning due to received guidance/support.	Pieaugušo proporcija, kuri piedalās pieaugušo izglītībā atbilstoši saņemtajam (karjeras attīstības) atbalstam.	(3) Future skills for future society. (4) sustainable education systems and effective resource management.	Indicators included in the previous EDG for 2014-2020
AL.3	Proportion of adults (25-64) involved in education (%).	Pieaugušo (25-64) proporcija, kuri iesaistīti pieaugušo izglītībā (%).	(4) Sustainable education systems and effective resource management.	Indicators included in the previous EDG for 2014-2020 – modified
AL.4	Number of adults receiving professional qualifications outside formal education through the validation process.	Pieaugušo skaits, kuri ieguvuši profesionālās kompetences ārpus formālās izglītības un kuri ir saņēmuši to atzīšanu formālajai izglītībai (visos izglītības līmeņos).	(4) Sustainable education systems and effective resource management.	Indicators included in the previous EDG for 2014-2020
AL.5	Proportion of youth and adults with ICT skills by level of skill.	Jauniešu un pieaugušo ar IKT prasmēm proporcija pa prasmju veidiem.	(3) Future skills for future society.	Additional indicators proposed by the OECD
AL.6	Proportion of full-time support staff for adult learning per inhabitants in municipality.	Pieaugušo izglītības pilnas slodzes atbalsta personāla skaits katrā pašvaldībā.	(1) Teaching and academic excellence.	Newly proposed
AL.7	Existence of a roadmap for adult learning in each municipality.	Pieaugušo izglītības ceļa kartes pieejamība katrā pašvaldībā.	(4) Sustainable education systems and effective resource management.	Newly proposed
AL.8	Share of funding for adult learning by source (e.g. government, enterprise, individual).	Pieaugušo izglītības finansējuma daļa pēc finansējuma avota (piemēram, valsts, privātais, indivīda).	(4) Sustainable education systems and effective resource management.	Newly proposed
AL.9	Share of adult learning programmes licensed and monitored with national quality standards.	Valsts kvalitātes standartiem atbilstoši licencētu un monitorētu pieaugušo izglītības programmu proporcija.	(2) Accessible, quality education for everyone. (4) Sustainable education systems and effective resource management.	Newly proposed
AL.10	Share of adults who report being motivated to participate in adult learning.	Pieaugušie, kuri norāda, ka ir motivēti piedalīties pieaugušo izglītībā.	(2) Accessible, quality education for everyone.	Newly proposed

Indicator AL.1. Share of adult education staff participating in professional development

Main comments from participants during the workshop

General comments: Most participants considered this indicator as clear and relevant.

Main challenges: Participants highlighted the challenge of defining “adult education staff”. Given that a variety of education staff across education levels provide adult education, there are no specific “adult educators”. At the same time, the type of professional development that teaching staff across those levels receive can be quite different.

Proposals for modifications/additions: There was disagreement among participants on whether the indicator should say "share" or "total number". The challenge with "share" is that for formal adult education teaching staff (e.g. general education, VET, higher education) participation in professional development is mandatory, which would mean the rate would be 100%. The challenge with "total number" is how to interpret it. The number of professional development participants may be rising, but this may reflect a rise in the overall number of adult education staff and not be a proportional increase in participation relative to those who do not participate.

As there is no commonly agreed definition of "adult education staff" and who counts as such, participants proposed tracking the number of teachers in general education and VET who have acquired skills in applying pedagogical approaches (i.e. andragogy) specifically for adult students as part of their professional development.

Practical implications: There were discussions about how to collect data on professional development activities given that various ministries relevant to adult education provide these activities. Collecting data on all professional development activities would require centralising this information across relevant ministries. One proposal was for the Ministry of Education and Science to lead the data collection efforts, with all other relevant ministries contributing.

Reflections from the OECD

A challenge with this indicator is that participation in a professional development activity by itself does not guarantee that adult education teaching staff will be automatically better at teaching, which depends on the quality of professional development and the motivation and ability of the course participants to apply the learned content practically in their teaching.

Latvia could consider having a complementary indicator on "usefulness of the skills acquired during professional development activities" to track whether activities have been useful for adult education staff. This indicator could be collected through a feedback survey and inspired by the TALIS indicator "% of teachers who feel professional development activities in the 12 months prior to the survey had a positive impact on their teaching practices".

Regarding the use of "share" vs. "total number", the OECD would recommend keeping the measure as a share of the total. The fact that professional development is mandatory highlights the importance of disaggregating participation in training by content, duration and mode (in person vs. online). This will give a more complete picture of the types of training these professionals are undertaking.

Indicator AL.2. Share of adults participating in adult learning due to received guidance/support

Main comments from participants during the workshop

General comments: One of the challenges participants highlighted was that many adults are not aware of how important adult learning is, nor how to access it. Participants viewed guidance and support activities as mechanisms to increase participation in adult learning.

Main challenges: It is important to define further and more precisely what would fall under the "guidance/support" category.

Proposals for modifications/additions: Participants found the phrasing of the indicator too narrow as it covers only "career guidance" (from the previous EDG). They consequently wanted to broaden it to "guidance/support". Guidance is not just about "career" opportunities, but rather learning opportunities in general. While some of these learning opportunities could be for enhancing a career, others could be for increasing a sense of well-being and social purpose. Moreover, this indicator should not only be about guidance services, but also cover other support activities that help adult learners access adult learning,

such as public awareness raising campaigns, offline or online informational material, and the assessment of skills through tests, skills audits or interviews.

Practical implications: Currently, only specific projects in Latvia track participation in guidance activities, such as those that have a guidance component and when EU funded projects are required to report the number of beneficiaries receiving guidance services. However, when this information is collected it does not capture whether or not the guidance has led to participation in adult learning.

In the regular survey on adult learning in Latvia, a question could ask participants whether they have received guidance/support with information about adult learning. If so, then they could be asked if that lead to them participating in adult learning.

Reflections from the OECD

One of the challenges of phrasing a question more broadly is how to interpret the answers afterwards. For example, if participants indicate that they did participate due to received guidance and support activities it would still be difficult to disentangle whether this was due to a specific guidance activity, other support activities, or both. It may be that one of these is highly effective while the other is not. In order to assess the quality of guidance and support activities it would be useful to disaggregate them. For example, in the Adult Education Survey there are a number of questions that break down the types of guidance and support activities and what form it took (e.g. face-to-face, interaction through internet, phone). It would be particularly important to disaggregate at least financial support from other types of support or guidance.

Indicator AL.3. Proportion of adults (25-64) involved in education (%)

Main comments from participants during the workshop

General comments: Participants supported this indicator as it is one of the most widely used nationally and internally.

Main challenges: There is an ongoing debate about the time period used for tracking participation in adult learning. Currently, the Labour Force Survey tracks participation in the last four weeks, while the Adult Education Survey and the OECD's Survey for Adult Skills (PIAAC) tracks participation in the last 12 months. Both of these periods have their advantages and disadvantages. The shorter period is likely to be more accurate as it is easier for respondents to remember the past four weeks than a longer time back. However, there could be large variations depending on the time of year when respondents are answering the question, as they may be more or less likely to participate during certain periods (e.g. summer months). The longer period captures more adult learning activities, but the information provided may be less accurate.

Proposals for modifications/additions: Participants suggested having two separate sub-indicators: one that covers the 25-64 age group and one that goes beyond the age of 64, as many senior citizens also want and need to participate in adult learning. Participants suggested tracking the total number of adult learners across all education levels (e.g. basic education, VET, higher education). They considered this important as Latvia seeks to make its formal education system more accessible to adult learners.

Practical implications: The Latvian statistical office would collect this data.

Reflections from the OECD

While participation in adult learning is useful, it is also important to consider the level of intensity. For example, someone who participates in a couple of short one-day courses may seem to benefit from a lot of adult learning in comparison to someone who only participated in one course. However, if that one course was an intense course over many weeks, that adult learning participation was more intense. It is

thus advisable to always consider the frequency and intensity of adult learning together to get a more holistic picture of the situation.

Consistent with other international indicators, this indicator should also distinguish between the different forms of adult learning: formal and non-formal education, and informal learning. Formal education is structured and leads to a nationally recognised certificate. Non-formal education is also structured but does not lead to a nationally recognised certificate. Informal learning is neither structured nor leads to a nationally recognised certificate.

It could also be useful to track whether adult learning participation was primarily for job-related or personal reasons to better understand the reasons for participating in adult learning.

A minor note regarding the naming of the indicator in English: the term “involved in” is not widely used for education indicators, and it may be clearer to use the term “participating in”. This may not be an issue in the Latvian version of the indicator.

Indicator AL.4. Number of adults receiving professional qualifications outside formal education through the validation process

Main comments from participants during the workshop

General comments: Participants highlighted the importance of tailoring this indicator to the recognition of prior learning that has occurred through the formal validation process. Currently, only full qualifications are validated. While partial qualifications cannot yet be validated, it is hoped that this will be possible in the future. However, one challenge, for example, is the lack of a credit system in vocational education at the secondary education level.

Main challenges: As the validation process happens across all different levels of education, getting information across all of these levels will require additional co-ordination efforts.

Proposals for modifications/additions: Participants added “validation process” to the phrasing of the indicator (from the previous EDG) as it is a specific process through which professional qualifications are officially recognised. Participants highlighted the need to track not only validation that leads to a full qualification, but also validation for partial recognition. This would be in line with recent efforts to provide modular adult learning programmes that allow adults to take short modules for which they receive partial recognition. They can then accumulate these modules and put them towards a full qualification. This allows them greater flexibility to pursue adult learning when they can.

Practical implications: The responsibility for collecting this data would depend on the level of education at which the adult learner is seeking to receive recognition. For vocational education and training it would be the education quality centres, and for higher education it would be the academic information centres. For all other levels of education it could be the National Centre for Education.

Reflections from the OECD

As with most indicators that measure absolute numbers instead of shares, it would be difficult to interpret changes to this indicator. If the number decreases it will not be clear if there are fewer participants in informal education or if fewer participants in informal education have been able to validate their learning. Nevertheless, it would be extremely challenging to calculate this indicator as a share because of the difficulty in regularly assessing the total number of adults who have participated in non-formal activities that are eligible for recognition. As a result, this indicator may be kept as a “red flag” indicator, which means that it may help raise awareness of the topic, and that significant changes to the indicator value may help trigger further examinations.

Moreover, while the recognition of prior learning is an important step in incentivising adults to participate in adult learning outside the formal education system, counting the numbers of adults who pass through the validation process alone may not be sufficient. It could also be useful to have a follow-up mechanism in place that tracks whether the stakeholders (e.g. employers) know how to interpret qualifications gained through this alternative pathway.

Indicator AL.5. Proportion of youth and adults with ICT skills by level of skill

Main comments from participants during the workshop

General comments: There was broad agreement on this indicator, particularly as Latvia is seeking to become more adapted for a digital future. This is an indicator that is already being used and is in line with EU indicators.

Proposals for modifications/additions: Participants suggested covering not only the type of skill, but also the level of skill. The type of skills can be categorised as one of three skill levels: basic (e.g. copying files or folders or using copy and paste tools), standard (e.g. installing or configuring software or using basic formulae on spreadsheets) and advanced (e.g. using specialist language to write computer programmes).

Practical implications: These data are already collected by the Latvian statistical office.

Reflections from the OECD

This indicator at the international level (SDG 4.4.1) is phrased as “proportion of youth and adults with information and communication technology skills, by type of skill”. It would be useful for Latvia to consider keeping this as it is.

Indicator AL.6. Proportion of full-time support staff for adult learning per inhabitants in municipality

Main comments from participants during the workshop

General comments: Participants proposed this as a new indicator. As each municipality varies considerably in its capacity to co-ordinate adult learning policies, each municipality needs sufficient human resources.

Main challenges: Participants emphasised that there should be at least one adult learning staff member in each municipality. When the adult learning offer is low it would be their responsibility to find ways of increasing adult learning offers.

Proposals for modifications/additions: Since each municipality varies considerably in its total adult population, the number of support staff for adult learning should be assigned to each municipality proportional to its population size.

Practical implications: Latvia is in the process of implementing a territorial reform. This could have implications for the total number of municipalities. The number of human resources for adult learning in each municipality should be adequate for the final size of each newly created municipality.

Reflections from the OECD

Depending on the general governance structure for adult learning in Latvia, it may be important to measure this indicator in full-time equivalents instead of full-time staff. For example, if two municipalities create a joint adult education centre with two full-time staff members, the current indicator would either double count these staff (if each municipality reported two full-time people) or undercount them (if each municipality reported zero full-time people). If the indicator was measured in full-time equivalents, each municipality would report one staff and this would portray a more realistic picture.

While having sufficient staff dedicated to adult learning policy in each municipality is an important criterion, it would also be important to consider how these staff are selected, trained and supported to fulfil their functions. For example, it may be possible for sufficient staff to exist in a municipality but for them to lack sufficient understanding and skills to co-ordinate adult learning policies effectively. They may also struggle to fulfil their functions if there are other barriers (e.g. not enough financial resources, no clear mandate).

Complementary indicators could track, for example, whether these adult learning staff are receiving training and sufficient support to fulfil their functions effectively.

Indicator AL.7. Existence of a roadmap for adult learning in each municipality

Main comments from participants during the workshop

General comments: Participants proposed this indicator as the adult learning landscape is complex and difficult to navigate for the individual adult without appropriate guidance. A roadmap could gather information on all local adult learning opportunities and show the possible adult learning pathways, how to participate, and the relative merits of each opportunity.

Main challenges: There are practical questions about who would create and finance such a roadmap. It would also be important to define clearly what such a roadmap looks like in practice; for example, would it be in an online and/or offline format? For such a roadmap to exist there needs to be information on all relevant and existing adult learning offers.

Proposals for modifications/additions: This indicator is related to indicator AL.6 as the responsibility for creating and maintaining such a roadmap could be assumed by the dedicated adult learning staff member in each municipality.

Practical implications: Participants proposed that the association of municipalities co-ordinate efforts to create a roadmap for adult learning across the different municipalities. The information about all relevant adult learning offers would have to be collected. It would also be important to update the roadmap with the latest information on adult learning offers. In order for the information to be the most useful for the end-user, the roadmap would ideally be tailored to their background profile. The information in the roadmap would then show the end-user the information most relevant to them.

Reflections from the OECD

While the existence of such a roadmap is an important first step, the indicator as currently phrased does not provide any information about the quality of the roadmap itself, nor whether it is actually being used by adult learners. Further reflection would be needed to understand what the characteristics of a quality roadmap are and how these could be measured by an indicator.

As an increasing number of adult learning opportunities are becoming available online and in blended formats (combination of online and offline), it may be useful for Latvia to consider the roadmap as being available beyond the municipality of the adult learner.

Although the initiative could be very valuable, the development of a “yes/no” indicator should not be prioritised for monitoring the new strategy. If a lack of information is considered as one of the main factors hindering adult participation, alternative indicators could be collected through household surveys to measure “the share of adults (by age group) who are aware of the adult learning opportunities available to him/her in the municipality or online”.

Indicator AL.8. Share of funding for adult learning by source (e.g. government, enterprise, individual)

Main comments from participants during the workshop

General comments: Participants discussed the need for an indicator that tracks the level of co-operation between the government and employers.

Main challenges: Participants proposed the idea of measuring the quality of collaboration between adult learning providers and employers by counting the number of "structured co-operation" agreements that exist between them. However, it was not clear how to define these agreements. Participants emphasised that many types of agreement already exist (e.g. the Vocational Education Competency Centre), and that depending on how such agreements are defined it could be difficult to get the data to measure the quality of collaboration. Furthermore, the existence of a co-operation agreement does not necessarily mean that that co-operation between adult learning providers and employers is actually happening, or is effective.

Proposals for modifications/additions: Include instead the share of funding for adult learning by source, including government, enterprises and individuals. .

Practical implications: None discussed.

Reflections from the OECD

Although tracking the source of funding for adult learning is useful, there are some concepts in need of clarification. As a first step it would be important to determine the kind of adult learning considered – would this include only formal and non-formal education?

It would also be necessary to determine what counts as a financial contribution to adult learning. For example, for employers there may be the direct cost of funding an adult learning programme, but there are also the indirect costs of having to cover for an employee while they are training. Would both types of cost be included? By whom and how would this information be gathered?

This indicator may require long-term development work. As an initial step, and depending on data availability, it should be possible to measure the relative volume (spending per learner) and the share of funding (government, household or employer) for formal adult-education learning programmes only.

Indicator AL.9. Share of adult learning programmes licensed and monitored with national quality standards

Main comments from participants during the workshop

General comments: Participants proposed this new indicator that applies in particular to non-formal education, where the quality of adult education can vary greatly across municipalities. Currently, municipalities are in charge of licensing adult learning programmes in line with their own criteria. In order to improve quality, participants highlighted the importance of creating national quality criteria for non-formal education for the licensing of adult learning programmes. Participants added that the same quality criteria could be used for the continuous monitoring of adult learning programmes.

Main challenges: Participants discussed the need for further consideration of which non-formal education courses would require licensing and monitoring. Would it apply to all, or a sub-section of non-formal education courses? For example, would hobby/interest courses (e.g. how to plant garlic) also have to meet these quality standards?

Proposals for modifications/additions: Already included in the new indicator proposal.

Practical implications: In terms of collecting the data, two options were proposed. The first option would depend on the ongoing territorial reform efforts. If Latvia were to introduce a regional government level

(e.g. five regions overseeing around 45 municipalities), then such a regional government could be in charge of the licensing and monitoring of adult learning programmes in the municipalities. This would make it easier for the national government via the regional government to apply national quality standards. The second option would be to introduce a new regulation that makes it mandatory to adhere to national quality standards for the licensing and monitoring of adult learning programmes, and introduces accountability mechanisms and provides support to municipalities to help them adhere to these standards.

Reflections from the OECD

The challenge with this indicator will be determining which adult learning programmes would be considered for the licensing and monitoring process using the national quality standards. Only programmes eligible for licensing should be included in the denominator.

Indicator AL.10. Share of adults who report being motivated to participate in adult learning

Main comments from participants during the workshop

General comments: This is a new indicator proposed by the broader stakeholder representatives. One of the key challenges and barriers regarding adult learning in Latvia is the relatively low level of motivation of adults to learn. In order to track progress in fostering a learning culture, this indicator could reveal how attitudes towards learning evolve over time. This indicator could help identify specific target groups with low levels of motivation so that additional outreach efforts could be directed at them.

Practical implications: The information could be collected via the regular adult learning survey in Latvia. The phrasing of the question could be the same as in the Adult Education Survey, where participants are distinguished between those who: 1) participated in adult education and would have liked to participate more; 2) participated in adult education and do not want to participate more; 3) did not participate in adult education, but would have liked to; and 4) did not participate in adult education and do not want to participate more.

Reflections from the OECD

This is an important indicator that would be useful for Latvia to consider. Based on OECD findings, a low level of motivation is the largest barrier to adult learning. By tracking motivation levels, Latvia can implement targeted additional support, such as guidance and counselling.

Another indicator that Latvia could consider for tracking motivation is whether an individual has looked for information on adult learning. The assumption is that if someone has looked for information, they already have a certain level of motivation to participate in adult learning. The Adult Education Survey has such a question (item 37 in the 2016 survey): “during the last 12 months, have you looked for any information concerning learning possibilities (either on formal or non-formal education and training)?”

Main gaps in adult learning indicators

Perceived need for further training to cope with work duties by skill level and skill requirements of the job

While most of the final selected indicators concern the supply side of adult learning, it would be useful to also have indicators on the demand side. The indicator could be the share of adults who report a “perceived need for further training to cope with work duties by skill level and skill requirements of the job”. This would help answer policy questions that relate to skills mismatch, such as: What is the share of adults who need a skills upgrade for their present job? How is the need for training related to the skill level of the person? How is it related to the skill level of the job?

This indicator already exists in international surveys, such as PIAAC. It could also be useful to regularly ask this question in Latvia to track how the demand for skills develops over time.

Optimisation of adult learning delivery

Adult learning opportunities can be provided in different ways (e.g. time, mode, modularity, financial arrangements) and be provided through a number of different stakeholders (e.g. private training institutions, community-based providers, employers, unions). Time can have different dimensions, such as the duration of the course, full-time vs. part-time, number of "sessions", time spent during the day (evening classes, weekends, during working hours, etc.). Mode could be the physical location of a course vs. distance learning. Modularity means that there are several courses on a certain topic that build on each other. Financial arrangements could be whether an individual pays the total or partial cost of adult learning, and whether it is sponsored by the employer.

This information could be tracked with a number of different indicators, such as “participation rate in non-formal education by way of delivery”. A complementary indicator would be “time spent in non-formal education by way of delivery”. These could help address the policy questions: What is the distribution of participation/time spent in adult learning by way of delivery? Do different ways of delivery cater to different clienteles?

Provision of adult learning programmes by stakeholders

None of the selected indicators relate to the supply of adult learning programmes by stakeholders. Besides information on government-provided adult learning programmes, it would also be useful to track the supply of adult learning programmes provided by stakeholders. This information would be helpful in getting an overall picture of which non-formal education providers exist, and would be important information for the roadmap of adult learning (indicator AL.7).

An example of an indicator could be: “participation and hours in non-formal education by provider, field and employer sponsorship”. This would address the policy questions: What providers supply the courses attended by the participants and in what field? How many hours do these courses represent? What part of the total realised demand is supplied by each provider type and in each field? What proportion of participants and what proportion of the time spent in non-formal education is sponsored by the employer? This information is already collected by the Adult Education Survey and could be collected on a more frequent basis with a national survey.

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Notes

[1] The four policy objectives discussed during the Strategy Development Workshop were draft versions. They have since been further developed, as reflected in Chapter 2 of the full report.

[2] The methodology for calculating adjusted parity indices can be found here: http://uis.unesco.org/en/glossary-term/adjusted-parity-index.

[3] The methodology for calculating adjusted parity indices can be found here: http://uis.unesco.org/en/glossary-term/adjusted-parity-index.

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