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Indicators of inclusion in education: a framework for analysis

9th Policy Forum, 17 March 2022

This draft paper aims to discuss the importance of monitoring indicators of inclusive education for OECD countries, and to propose a framework to guide such efforts. It also reflects on possible uses of indicators of inclusion and challenges in their design and implementation.

This draft paper is part of Phase II of the OECD Strength through Diversity Project: Education for Inclusive Societies and is meant for comments at the upcoming 9th Policy Forum on 17 March 2022. Countries are invited to provide comments by 1 April 2022.

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Abstract

Calls for increased monitoring and evaluation of education systems policies and practices have not, so far, included widespread and consistent assessments of the inclusiveness of education settings. Measuring inclusion in education has proven to be a challenging exercise, due not only to the complexity and different uses of the concept, but also to its holistic nature. Indeed, measuring inclusion implies analysing a variety of policy areas within education systems, while also considering the different roles of the system and the school and classroom levels. This paper discusses the application of the input-process-outcome model to the measurement of inclusion in education, discussing key indicators that can be adopted by education systems and schools to this end. In conclusion, it mentions relevant considerations for policy makers to entertaining when designing indicators for inclusion, such as the scope of their adoption, the constraints related to data disaggregation and the relevance of intersectional approaches to inclusion.

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1. Introduction

Over the last decades, the policy making field has experienced increased pressure to define policies jointly with clear measurable objectives, alongside associated indicators to monitor their achievement (OECD, 2020[1]). This movement has involved also the field of educational policy making, and has led to various attempts to develop indicators also in the areas of equity and inclusion in education, which have gained prominence in the last decade.

Inclusive education, in particular, has become a core concept in education theory discourse since UNESCO's 1994 Salamanca Declaration, and various education systems have progressively considered or enacted policy reforms and changes to foster the inclusion of diverse and disadvantaged students. Yet, the concept of inclusion in education has not been consistently codified and adopted in the literature and in policy making, and its definitions vary widely. Historically, it has been used in particular in relation to students with special education needs, but, in recent years, its use has expanded to include all students, regardless of their characteristics.

This variety of uses of the term inclusion, and its overlap with concepts such as equity and integration, complicates efforts to measure and monitor efforts to improve the inclusiveness of education systems. Moreover, researchers find it possible that inclusive education scholars and educators have largely avoided the task of trying to measure inclusive education due to the complex nature of the endeavour and the high likelihood of encountering a lack of contextual sensitivity in measurement instruments, no matter what the method or criteria chosen (Loreman et al., 2014[2]).

Nevertheless, greater equity and inclusion in education cannot be achieved without increased efforts to collect and analyse data on the most excluded segments of the population. While measuring something does not ensure that governments will automatically act on it or have the instruments to address issues swiftly, researchers argue that countries and researchers should "measure what they value", rather than "valuing what can be measured". Indeed, developing and selecting specific indicators can measuring the inclusiveness of education systems and, consequently, act to foster it. Indicators have, in fact, multiple roles: they can help identify areas in which progress has to be made or has been made, but also turn data into relevant information for policy makers.

In order to support education systems to develop monitoring systems that evaluate the inclusiveness of their system, schools and classrooms, this paper presents a framework for developing indicators of inclusion. Based on the input-process-outcome model that is routinely used in other areas of education policy monitoring, the paper presents various areas that could be monitored in regards to inclusive education. Building on existing efforts to adapt this model to inclusive education, the paper mentions the core elements that represent inputs, processes and outcomes of inclusive education systems, spanning from resources and curriculum, to school and classroom climate and school practices, to outcomes of the system such as student achievement and wellbeing. For each area, the paper provides some examples of indicators that can be used as a reference for education systems to design their own frameworks. Indeed, not all measures are universally relevant and applicable, and frameworks for the evaluation of inclusion in education should account for cultural sensitivity of certain measures and adapt them to different contexts.

The paper concludes with a discussion of key point of consideration for policy makers. First, it mentions the various purposes that the indicators of inclusion can serve, mentioning their role in developing a strong monitoring and evaluation system can provide evidence on the state of the education system, but also

provide inputs to other processes, such as financing or resource distribution. Indicators can also help track the progress of strategies and programmes within an education sector plan. Finally, the paper also discusses the role of data disaggregation and the challenges it can entail, and then touches upon the important of considering intersectionality of dimensions of diversity when designing indicators and data collection systems.

2. Defining the setting

Inclusive education is not a new concept and has been widely accepted as a necessary driver for educational policy since UNESCO's 1994 Salamanca Declaration. It has been a key concept in education theory discourse, and has progressively gained space in educational policy and practice (Mezzanotte, 2022[3]). While historically the emphasis was on the need to reform education systems to include in mainstream education students with special education needs (SEN), inclusion has recently begun to be understood as necessary for all learners. The recognition of this necessary has been linked to the will to respond to current challenges related to increasing diversity in classrooms and societies more broadly (Ainscow, 2019[4]). This section introduces the key concepts in the area, such as equity and inclusion, and builds on this basis the conceptual differences between indicators of equity, integration and inclusion. Then it discusses why countries, organisations and practitioners should be interested in the development of indicators, mentioning the international drive that has guided this field.

2.1. An evolving concept

Defining concepts is a key step to allow education systems and societies to evaluate their ability to provide an inclusive and equitable education to all students. It is also key to make them accountable and monitor their progress towards inclusion. In this field, however, definitions have been evolving over time and there is sometimes an overlap across different concepts (Mezzanotte, 2022[3]; Cerna et al., 2021[5]). Some of the most prominent concepts developed in the literature and adopted in policy-making are: equity, equality, integration and inclusion.

The OECD's Strength through Diversity Project adopts the definition of equitable education systems as those that ensure the achievement of educational potential is not the result of personal and social circumstances, including factors such as gender, ethnic origin, Indigenous background, immigrant status, sexual orientation and gender identity, special education needs and giftedness (OECD, 2017[6]; Cerna et al., 2021[5]). However, other organisations, projects, and researchers adopt different definitions for the concepts of equity and equality. For UNESCO, **equity** "considers the social justice ramifications of education in relation to the fairness, justness and impartiality of its distribution at all levels or educational sub-sectors" (UNESCO-UIS, 2018, p. 17[7]). UNESCO also defines the concept of **equality,** as "the state of being equal in terms of quantity, rank, status, value or degree". **Equality of opportunity**, in particular, is understood to mean that everyone should have the same opportunity to thrive, regardless of variations in the circumstances into which they are born. Having been granted such opportunities, however, students' outcomes will still depend on how much effort they put in. This concept holds individuals accountable, as they are considered responsible for, and to have control over, their effort. This implies that the inequality in outcomes that arises from differences in effort is fair, while that which could derive from personal characteristics – such as socio-economic background or gender – is not fair.

Integration, instead, is achieved by placing students with diverse needs in mainstream education settings with some adaptations and resources, on the condition that they fit into pre-existing structures, attitudes and an unaltered environment (UNESCO, 2017[8]). Integration can consist in placing a student with a physical impairment or a learning disability, for example, in a mainstream class but without any individualised support and with a teacher who is unwilling or unable to meet the child's learning, social or

disability support needs. More recently, integration and inclusion have been compared and sometimes confused, whereas the two concepts present significant differences.

The OECD's Programme for International Student Assessment (PISA), instead, defines and measures equity in education through two related principles: inclusion and fairness (OECD, 2019[9]). Inclusion, for PISA, relates to ensuring that all students acquire essential foundation skills. Fairness relates to students' access to a quality education and, more specifically, to the degree to which background circumstances influence students' education outcomes (Ibid.). Scholars, practitioners, governments and organisations such as UNESCO and UNICEF have also provided conceptualisations and definitions of inclusive education (Loreman et al., 2014[2]). Ainscow and colleagues (2006[10]), for instance, have identified six ways of thinking about inclusive education, which consider inclusion: i) as a concern with students with disability having special educational needs; ii) as a response to disciplinary exclusion; iii) in relation to all groups being vulnerable to exclusion; iv) as developing the school for all; v) as education for all; and vi) as a principled approach to education and society.

The OECD Strength through Diversity Project aims to go beyond the definition of inclusive education as a simple dimension of educational equity, though both concepts cannot be thought of separately (Cerna et al., 2021[5]). Thus, it adopts UNESCO's definition, which considers inclusive education as *"an on-going process aimed at offering quality education for all while respecting diversity and the different needs and abilities, characteristics and learning expectations of the students and communities, eliminating all forms of discrimination"* (UNESCO, 2009[11]). It is about changing the system to fit the student, not changing the student to fit the system, because the "problem" of exclusion is firmly within the system, not the person or their characteristics (UNICEF, 2014[12]). According to UNICEF (2014[12]), inclusive education is defined as a dynamic process that is constantly evolving according to the local culture and context, as it seeks to enable communities, systems and structures to combat discrimination, celebrate diversity, promote participation and overcome barriers to learning and participation for all people. All personal differences (i.e. age, gender, ethnicity, Indigenous status, language, health status, etc.) are acknowledged and respected. Today, inclusive education is generally viewed as "a matter of adopting a socio-ecological approach regarding the interactions between students' capabilities and environmental demands, stressing that educational systems must adapt to and reach all students – and not vice versa" (Amor et al., 2018, p. 1278[13]).

Moreover, historically, inclusion has been developed as a concept pertaining almost exclusively to students with SEN (Mezzanotte, 2022[3]) (Brussino, 2020[14]). The introduction of the concept of inclusion is indeed closely related to the emergence of the claim that students with SEN should attend mainstream education with their peers without SEN and be provided with quality instruction (Kyriazopoulou and Weber, 2009[15]), which is explored more in detail in Brussino (2020[14]) and Cerna et al. (2021[5]). Different stakeholders, however, use different terms in education practice (Cerna et al., 2021[5]). Integration is often used for immigrant and refugee students, whereas inclusion usually refers to students with SEN. This may take a narrow view of inclusion, which focuses only on one dimension of diversity – students with special education needs. Moreover, this issue has an implication on how education systems monitor students, which characteristics they consider, and how they design measures and indicators.

As any student can face barriers to inclusion, there has been an emphasis on the different aspects of diversity. The OECD Strength through Diversity project focuses in particular on six dimensions of diversity when discussing inclusive education, although recalling that inclusive education targets *all students* (Cerna et al., 2021[5]). These six dimensions are:

- Migration-induced diversity.
- Ethnic groups, national minorities and Indigenous peoples.
- Gender.
- Gender identity and sexual orientation.

- Special education needs (SEN).
- Giftedness.

The analytical framework of the Project also considers students' socio-economic status and geographical location of students as overarching factors, i.e. factors that can produce large variations in the educational outcomes and affect the inclusivity of education systems. These two factors interact with the dimensions of diversity, which also intersect with each other (Cerna et al., 2021[5]).

Regardless of the choice of definition adopted by a single organisation or education system, the challenge in not having a univocal definition of inclusion and other concepts lays in its impact on efforts towards measurement. Indeed, in the absence of a unified definition of inclusion, attempts to measure or compare such a complex equity issue are challenging. Researchers find it possible that inclusive education scholars and educators have largely avoided the task of trying to measure inclusive education due to the complex nature of the endeavour and the high likelihood of encountering a lack of contextual sensitivity in measurement instruments, no matter what the method or criteria chosen (Loreman et al., 2014[2]). Yet, they note, some promising models do exist. Some of them, such the *Index* for Inclusion developed by Ainscow and Booth, are reviewed later in this paper.

2.2. Typologies of indicators

As discussed, the distinction between the concepts of inclusion, equity and integration is at times blurry and not well codified in the literature. Given the lack of a clear theoretical framework, defining differences between indicators of inclusion, equity and integration is not straightforward. Indeed, these differences are not explicit in the literature, and indicators of the three concepts are used at times interchangeably.

Thus, this Section of the paper presents indicators of integration and equity by showing how they have been used in the literature. This exercise will show some conceptual commonalities with the indicators of inclusion discussed in Section 3. while highlighting different uses of the concepts by different stakeholders.

2.2.1. Indicators of integration

Indicators of integration, in education and beyond, are not clearly conceptualised. Their use is generally adapted to the specific interpretation of the concept of integration adopted by each researcher or institution using them. Nevertheless, it appears that in large part of the literature indicators of integration concern mostly students with an immigrant background. Over the last few decades, various organisations have developed and adopted indicators of immigrant integration in schools. European institutions such as the Council of Europe (1995[16]), the European Commission and Eurostat (2011[17]) – the latter following the Zaragoza Declaration of April 2010 - developed indicators of immigrant integration to discuss options for common indicators for their Member States. These institutions suggested measures such as the distribution of immigrant students in different types of schools, relative to areas of residence; their participation in pre-primary education; highest educational attainment; share of early leavers from education and training; and results in terms of school-leaving certificates and higher education completion (Ibid).

The United Kingdom's government developed the Home Office Indicators of Integration framework, which seeks to inform the planning, monitoring and evaluation of integration projects (Ndofor-Tah et al., 2019[18]). It is meant to be a resource for integration practitioners at all levels, offering a common language for understanding, planning, monitoring and measuring integration, and supporting better and more tailored integration services. In the relative report, they provide suggested indicators that practitioners and policy officers can use where appropriate to measure the outcomes of initiatives. Education is one among the five domains that the framework covers. Indeed, access to and progress within the education system are considered significant integration markers, and a major means towards this goal. As other institutions, this

framework identifies indicators concerning the access and participation of immigrant students (e.g. "% students excluded from school" and "% young people and adults achieving admission to tertiary education") and their achievement (e.g. "% achieving specified key stages at primary level") (Ndofor-Tah et al., 2019[18]).

This framework mentions some indicators that relate closely to inclusion, such as the "representation of diversity of local population in schools (index of dissimilarity)", the students' sense of belonging at school and their experience of incidents of bullying or racist abuse in schools. These indicators overlap with the area of inclusion as they concern aspects that go beyond the access and participation into education but take a more holistic approach to the topic, considering also the social and emotional well-being of students. As mentioned in Section 3. more extensively, these are some key areas to consider for indicators of inclusive education.

Integration is at times also used to refer to refugee students. For instance, Sak and colleagues (2018[19]) attempted to identify possible key performance indicators for measuring refugee integration policies in host countries, considering for instance the share of refugee children enrolled in schools at each country.

Beyond the understanding of integration as relative to immigrants, the term integration is also used in relation to students with SEN. In this context, integration generally means that learners with SEN are placed in mainstream education settings. UNESCO's glossary of the "Guide for ensuring equity and inclusion in education" defines integration as an education system in which "learners labelled as having "special educational needs", for example, are placed in mainstream education settings with some adaptations and resources, but on condition that they can fit in with pre-existing structures, attitudes and an unaltered environment" (UNESCO, 2017, p. 7[20]). However, while the term is routinely used to refer to students with SEN, it does not appear widely adopted in the literature on indicators of integration in schools. Thus, it appears that indicators of integration tend to focus mostly on students with an immigrant or refugee background, and less on other diverse groups of students.

2.2.2. Equity and Inclusion: commonalities and differences

Since equity can be seen in literature either as a prerequisite for or a part of inclusion (Field, Kuczera and Pont, 2007[21]), indicators of the two concepts are sometimes hard to disentangle. Moreover, the concept of indicators of equity is not clearly defined and their use shows different conceptualisations.

Generally, the main indicators for equity focus on the need for all children to reach a minimum standard and the comparison of educational outcomes between different groups (see Table 2.1). The 2021 edition of OECD's Education at a Glance, for instance, focused on equity as the main theme of the publication. In their interpretation, "equity in education means that access, participation and progression to obtain a quality education are available to all and that personal or social circumstances – such as gender, socio-economical or immigrant background – are not obstacles to achieving educational potential" (OECD, 2021, p. 16[22]). Thus, they developed a number of indicators that analyse participation and progression through education, as well as the outcomes of education across a number of equity dimensions: gender, immigrant background or country of origin, and subnational regions. Other actors, as well, consider equity indicators to encompass not only immigrant status but also gender, socio-economic status, sexual orientation or ethnicity (European Group for Research on Equity in Educational Systems, 2005[23]; Baye et al., 2006[24]; OECD, 2018[25]; UNESCO, 2017[20]).

Considering in particular the section on access, participation and progression in Education at a Glance 2021, it appears that available information for these indicators relates mostly to the gender of the students and their socio-economic status, and less to their country of origin or subnational regions (See Table 2.1). Moreover, considering also the other areas covered with an equity lens in the publication, it is possible to deduce that the focus of these equity indicators is mostly on the input and resources put into education for different groups and their academic and labour market outcomes. This shows a difference with the

conceptualisation of inclusion, as it does not include an analysis of student well-being, such as their socio-emotional development, sense of belonging in schools or experience in their education settings.

Table 2.1. Indicators including an analysis of equity in Education at a Glance 2021, by equity dimension

Access to education, participation and progression	Dimensions			
	Gender	Socio-economic status	Country of origin	Sub-national
Who participates in education?	X	X		X
How do early childhood education systems differ around the world?				X
Who is expected to graduate from upper secondary education?	X	X	X	
Who is expected to enter tertiary education?	X			
Who is expected to graduate from tertiary education?	X			
What is the profile of internationally mobile students?		X		

Note: This table reports exclusively the indicators related to Chapter B.
Source: OECD (2021[22]), Education at a Glance 2021: OECD Indicators, OECD Publishing, Paris, https://doi.org/10.1787/b35a14e5-en.

UNESCO has also developed and discussed indicators on equity in education, stemming from its role of monitoring the progresses related to Goal 4 of the Sustainable Development Goals (SDG) framework. Indeed, equity is a core concern for the SDGs, for instance through Target 4.5. focusing on the elimination of disparities amongst all children and equal access to all levels of education and vocational training (UNESCO-UIS, 2020[26]). Specifically, the target is to guarantee "By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, Indigenous peoples and children in vulnerable situations" (UNESCO, 2018, p. 32[27]). To monitor this target, the framework considers some parity indices - such as female/male, rural/urban, bottom/top wealth quintile and others such as disability status, Indigenous peoples, where data is available - for all indicators that can be disaggregated. It also focuses on the composition of students groups in different grades, in particular for those who have their first or home language as language of instruction, and it monitors also the education expenditure per student by level of education and source of funding (Ibid.).

In 2005, The European Group for Research on Equity in Educational Systems (EGREES) had developed a report on "Equity in the European Educational Systems: A Set of Indicators", for a project intended to measure and compare the equity of the education systems in the European Union Member States[1], to allow decision-makers to refine their educational policies (European Group for Research on Equity in Educational Systems, 2005[23]). Among the different areas explored, the indicators developed under this

[1] When this project started in May 2001, the European Union had 15 member states. The indicators created and presented in the report concerned these 15 countries (plus Norway and Switzerland). A few of them only include some data related to the new member states.

project covered inequalities both in the education process and in the results of education. The former concerned gender, socio-economic and migration-related differences in areas of quantity and quality of education received, measured by education spending, perception of support from teachers, segregation. The latter, instead, were measured by skill inequalities at the end of compulsory schooling, low and high achievement, and professional aspirations among others.

In general, an overview of different sources shows that indicators often refer to equity as basic minimum standards of education – in terms of achievement, proficiency, etc. – or to an understanding of equity in terms of fairness, which implies ensuring that personal and social circumstances – for example gender, socio-economic status or ethnic origin – should not be an obstacle to achieving educational potential (Table 2.2). The understanding of equity as fairness appear to be similar to UNESCO's understanding of equality of condition (UNESCO, 2020[28]).

Table 2.2. Examples of Equity Indicators

Equity as a basic minimum standard of education for all	• Completion rate (primary education, lower secondary education, upper secondary education).
	• Proportion of 15-year-olds achieving at least a minimum proficiency level (PISA level 2) in mathematics.
Equity as fairness or equality of condition	• Difference between men and women in number of years spent in formal education.
	• Relative chances of students in lowest and highest socio-economic group scoring at low (below or at PISA Level 1) proficiency in mathematics.
	• Participation rate of 15-24 years-olds in technical and vocational programmes, disaggregated by sex.

Source: (OECD, 2018[25]; OECD, 2018[29]; UNESCO-UIS, 2019[30]; OECD, 2021[22])

While there appear to be a difference between these indicators and the conceptualisation of inclusion discussed in the previous sections, there are some overlapping elements between the two concepts. First, participation and access are key elements of inclusion as well as equity as discussed in Section 3.1.3. Moreover, there have been indicators of equity designed with a larger scope, such as the 2005 indicators proposed by the European Commission on the feeling of justice at school, which were however deemed as "experimental".

2.3. Drivers of the development of indicators of inclusion

There are various reasons for countries and organisations to adopt indicators of inclusion in education. Being able to monitor key aspect of students' lives and experiences in schools, identify and respond to a variety of different needs, support professional development of teachers, and more. All of these have lead, over the last decades, to various attempts at developing common frameworks and indicators, to respond to an international call for monitoring gaps and progresses in the area of inclusive education. This session of the paper introduces the rationale for developing indicators of indicators, and contextualises into a larger international movement for monitoring policies with clear measures.

2.3.1. The rationale for developing and adopting indicators of inclusion

Over the last decades, several countries have engaged in more inclusive reforms of their education systems and started developing targeted policies in the field. Greater equity and inclusion in education cannot be achieved without increased efforts to collect and analyse data on the most excluded segments of the population. Such processes, however, require monitoring in order to evaluate their developments and whether their goal has been reached. Moreover, researchers have argued that, within education systems, "what gets measured, gets done" (Ainscow, 2005[31]). In particular, Ainscow acknowledges the importance of evidence, as a key element to develop inclusive education systems. While measuring something does not ensure that governments will automatically act on it, Ainscow argues that countries and researchers should "measure what they value", rather than, how often is the case, "valuing what can be measured". Indeed, developing and selecting specific indicators can help translate the will to achieve greater inclusion into the possibility of actually measuring the inclusiveness of education systems and, consequently, act on it. Indicators have, in fact, multiple roles: they can help identify areas in which progress has to be made or has been made, but also turn data into relevant information for policy makers (New Jersey Coalition for Inclusive Education, 2010[32]; von Schirnding, 2002[33]; OECD, 2006[34]).

If inclusiveness is not assessed, then policy makers and observers will judge an education system according to the indicators they already have. Instead, by developing indicators on inclusive education, countries will draw the attention on the issue, making it an accepted goal of the education system (Oakes, 1986[35]). As such, indicators can be major drivers of policy reforms, as they can show where there exists a need to improve some aspects of a given education system. Hence, they operate as a signal for social and political actors (UNESCO-UIS, 2018[36]; OECD, 2006[34]). The OECD Implementing Education Policies framework shows that indicators play a transversal role: in terms of policy design, they represent a tool that clarifies the vision and its objectives. Also, they help outline the policy goals in specific terms and set priorities for development and implementation as they refine the abundance of available information to present key elements, either to support the policy rationale, or to act upon for policy effectiveness (Gouëdard, 2021[37]).

In addition, the development of inclusive indicators can imply a need to collect new data. In doing so, it can shed light on data gaps or issues that have been previously overlooked. For instance, while focusing data collection on diverse groups does not automatically lead to their inclusion, monitoring the extent to which they are included in education draws attention to them and the barriers they face (Yap and Watene, 2019[38]; UNESCO, 2020[28]). UNESCO's International Observatory on Equity and Inclusion in Education points out that the most marginalised groups – such as nomadic populations and children displaced by conflicts - are not only excluded within society and education systems, but also from education data, where they seldom appear (UNESCO-UIS, 2020[26]). This invisibility in the data may be a further barrier to their participation and achievement in education. Identifying them and consequently targeting with appropriate policies can shift the burden of their inclusion in education from their own shoulders to those of the system, which would be forced to adapt to their specific needs. While not sufficient, flagging their struggles through data collection and indicators development can show that marginalised groups facing impediments to their personal growth are not in an immutable situation and that education systems can act to support them. If inclusive indicators are defined and computed in the same way throughout the years, they can also highlight trends, showing the progress or regress of countries (Oakes, 1986[35]).

Moreover, the implications on the use of inclusive indicators do not only concern education systems as a whole, but all the actors that work within them. For instance, being able to adopt and implement school and classroom indicators of inclusive education, can enable professional development for teachers in a more empirical and guided manner (Lancaster, 2014[39]).

2.3.2. An international movement for the development of indicators

Over the last decade, increasing demand for evidence-based policy making has led some governments to define policies jointly with clear measurable objectives, alongside associated indicators to monitor their achievement (Gouëdard, 2021[37]; OECD, 2020[1]). This tendency has also reflected into a movement for the development of indicators in the area of inclusive education, all across the international community. In particular, the need for work in this field was reflected in the outcomes of a European-wide survey conducted in 2006 by the European Agency for Special Needs and Inclusive Education (which was then named "European Agency for Development in Special Needs") (Kyriazopoulou and Weber, 2009[15]). This survey aimed at collecting Member Countries input regarding current, emerging and future issues and trends that should have been investigated in the field of special education needs. The Ministries of Education from 23 European countries participated in the survey, and the outcomes showed that countries were particularly interested in the development of indicators in the area of inclusive education. The rationale and process of development of these indicators is discussed more in depth in Box 2.1.

Box 2.1. Developing indicators for inclusive education at the European Level

The European Agency for Development in Special Needs Education, together with 23 of its member countries, conducted a project in 2008-2009 to design a common set of indicators for inclusive education. As a result of this joint effort by 32 national experts from the 23 European countries, the Agency, the Representative Board members and National Co-ordinator, a set of indicators applicable both at the national and supra-national level was developed.

The main goal of the project was to provide a solid foundation for the development of both qualitative and quantitative indicators, focused specifically on policies for inclusive education. By developing a common set of indicators, the project aimed to allow for comparisons across different education systems and to facilitate mutual learning processes. In addition to equipping each country with relevant indicators for monitoring their own situation and developments in policy and practice, the project further generated additional value-added from a European perspective, as these indicators were developed as a common effort among European countries. Employing a bottom-up approach, the project successfully designed a general framework and methodology on how to develop and properly use indicators for inclusive education.

In order to develop indicators for inclusive education, the project first pinned down all the 14 areas that are important for inclusive education. Among these, the project focused on three main areas, namely legislation, participation, and financing. For each of them, it established a set of requirements, representing the conditions to be fulfilled for inclusive education. For example, a requirement in the area of financing is that the policy on financing should to be fully based on educational needs. As a last step, for each requirement, indicators that identify ideal policy conditions in the area of inclusive education were developed. The indicators are mainly for naming a specific dimension, which needs to go through assessment and monitoring, rather than providing a quality statement.

For instance, some of the indicators developed in this project were:

- Consistency of national legislation on education with international agreement (in the area of *Legislation*).
- Established rules for flexibility in the curriculum to meet individual educational needs (in the area of *Participation*).
- Basic funding allocated to schools to allow them to respond to the needs of all pupils/students with minimal recourse to additional funding for specific needs (in the area of *Financing*).

- All countries and national experts participated in the project agreed on the set of indicators developed for monitoring favourable policy conditions and for cross-country comparison in inclusive education. However, it does not appear currently that the indicators developed have been adopted or implemented by member countries of the Agency.

Source: (Kyriazopoulou and Weber, 2009[40])

Another example of countries that undertook efforts in this area are the Pacific Islands (Sharma et al., 2018[41]). Through the Pacific Education Development Framework (PEDF) approved by 14 Pacific Island Education Ministers in 2009, the implementation of regional policies of inclusive education was set as a shared priority. While the focus of the Pacific Islands' work has been specifically on disability-inclusive indicators, the general lessons and methods adopted could be adapted to different contexts and to a broader understanding of inclusion (Forlin et al., 2015[42]). In order to ensure that progress was measurable, the intent for the countries was to develop a set of contextually appropriate indicators for measuring (disability-)inclusive education, in collaboration with various Australian institutions (2018[41]). One of the major challenges identified in this area was a lack of measurement tools that countries could use to guide their implementation of inclusive education and monitor their progress. Thus, to guide countries and assess whether they are achieving these aims, it was important for them to be able to plan and map progress against contextually appropriate indicators for measuring outcomes. This work produced 48 indicators form the Pacific Indicators for Disability-Inclusive Education (INDIE)[2], with 12 core indicators and 36 additional ones, which countries could choose among as to select the most relevant ones for their specific contexts and issues (Sharma et al., 2018[41]) (see Table A.3). A guideline manual has also been published to help countries collect data and build their indicators.

2.4. Which characteristics should the indicators possess?

Definitions of indicators are not consistent in literature. While there is consensus on the general purpose of indicators, the same does not apply to their definition (Gouëdard, 2021[37]). For some researchers, an indicator is exclusively quantitative measurement, such as a statistical indicator, or a data element that represents information for a specified time, place, and other characteristics (Economic Commission for Europe of the United Nations (UNECE), 2000[43]). For others, indicators can be qualitative in nature and reflect reasons, views and attitudes (European Commission, 2019[44]; European Commission, 2001[45]). In either cases, researchers agree that indicators are vectors of information, which are not political per se, but can be used as such through the definition of targets and benchmarks. Indeed, when associated with policies, indicators will influence how the policies are guided, perceived and enacted.

2.4.1. The need for SMART indicators

Not all indicators can be helpful for policy makers and for marginalised groups. Indicators that are not carefully defined and implemented can be impediments to progress and assessment. Thus, in order to be useful tools, they have to meet specific criteria. While, there is not agreement in the literature over all these criteria in the literature, there are some elements that are widely agreed upon and adopted by researchers and practitioners. For instance, the "SMART" framework (Doran, 1981[46]) is a widely adopted and implemented tool, whose acronym encapsulates the criteria it establishes for "good" indicators. According to it, indicators have to possess the characteristics described below. These characteristics should be considered more as objectives to strive for and limits to ponder, rather than mandatory criteria. Indeed,

[2] Their development has been funded by the Australian Government and contributions have been brought from many actors from Pacific islands, such as the Ministry of Education from Samoa and Fiji (Sharma et al., 2018[41]).

while indicators generally meet some of these, they rarely fulfil all. Even when they do, indicators can still entail other limitations. Without additional research, indicators cannot be used to predict future developments or establish casual relations. Yet, when such limits are acknowledged, "(the indicators') contribution is likely to be substantial", as they, in theory, could trigger debates or even tangible changes (Oakes, 1986, p. 37[35]). Ultimately, the availability and quality of data plays a major role in the development of indicators (Trewin and Hall, 2010[47]).

The characteristics of the SMART framework, are:

- *Specific*: While an outcome itself can be broad, the indicator should be narrow and focus on the 'who' and 'what' that it is measuring. For instance, an indicator directly stating the overall degree of inclusiveness of an education system would not be useful as it would not provide policy makers with information on what to change. Targeting a specific area for improvement allows countries to allocate their resources according to the performance of each sector, such as teacher training or school infrastructure (Frey and Osterloh, 2002[48]).
- *Measurable*: The indicator has the capacity to be counted, observed, analysed, tested, or challenged. If one cannot measure an indicator, then progress cannot be determined. For example, indicating that there is a gender gap in education without quantifying it or suggesting an indicator of progress cannot help countries in improving their system, as they will not be able to know if they are progressing or regressing in that area (Ibid).
- *Achievable/Attainable*: The indicator is achievable if the performance target accurately specifies the amount or level of what is to be measured in order to meet the result/outcome. The indicator should be achievable both as a result of the programme and as a measure of realism (United States Bureau of Educational and Cultural Affairs, n.d.[49]). The indicators should provide information on things that can be changed, otherwise they are of little use for policy (Frey and Osterloh, 2002[48]).
- *Relevant*: An indicator should be a valid measure of the result/outcome and be linked through research and professional expertise. The best way to think about relevance is to ensure that there is a relationship between what the indicator measures and the theories that help create the outcomes for the client, program, or system. In the context of education policies, indicators should be policy-relevant, and be considered as such by policy makers. Indeed, collecting data and treating them can be expensive and time-consuming (OECD, 2019[50]). Hence, one principle that should be guiding the selection or development of inclusive education indicators is the policy relevance of those indicators (Oakes, 1986[51]). Indicators should be politically relevant, yet not politically driven (OECD, 2006[52]).

or

- *Realistic*: Given available resources, indicators should not aim at impossible results (Ibid.).
- *Timely/Time-sensitive*: Indicators must be timely in several aspects. First, they must be timely in terms of the time spent in data collection. (United States Bureau of Educational and Cultural Affairs, n.d.[49]). Secondly, according to this framework, indicators should set goals that have to be achieved in a specific period of time. For example, the Sustainable Development Goals, adopted in 2015, are to be achieved before 2030. Time-sensitive indicators can help monitor progress during this period of time (Shahin and Mahbod, 2004[53]).

2.4.1. Other core principles

In addition to the aforementioned characteristics, other core principles have also been pointed out as relevant in the literature. Table 2.3 summarises various principles that should be taken into account when designing inclusive education indicators.

Adaptability

In the literature, warnings about the wish to build a common set of indicators for all countries abound. The main concern is that a fixed and universal definition of inclusive education and of the components of diversity would overlook countries different context, cultures and histories (European Agency for Development in Special Needs Education, 2011[54]; Sharma et al., 2018[41]; UNESCO, 2020[28]). Accordingly, a key characteristic that indicators should have is the principle of adaptability. Adaptable indicators are more relevant as they are more able to tackle not only the reality of each country but also its priorities in terms of policies. Indeed, different countries might face different challenges and be home to different populations with different needs. The Pacific INDIE were driven by the will to be able to monitor their systems and to be able to compare their performance. They acknowledged that the indicators reflect "Pacific values", implying their uniqueness (Sharma et al., 2018[41]). A possible suggestion is that, instead of having the exact same set of indicators for each country, countries could aim to agree on a set of indicators that allow for countries specificities (European Agency for Development in Special Needs Education, 2011[54]).

Even at the local level, indicators have to be adaptable. Booth and Ainscow (2002[55]), the authors of the Index for Inclusion (described more in detail later in this Section), call for modification of their proposed indicators in the presentation of their index. Adapting and adding parameters to take into account the specific context of schools is not only a suggestion, it is an expectation of the authors. As schools adapt the indicator, a common background is still present, allowing for comparison. Finding new questions and changing the existing ones is also a part of the process of becoming a more inclusive school, as reported by schools using the Index. It implies that all school actors have to reflect on their practices and engage in discussions on their perception of inclusion (Ibid.).

Completeness

If countries witness a progress or regress in a designated indicator, they should be able to determine, to a certain extent, what has driven this change. Hence, a set of indicators should be complete enough to allow for a better understanding of causal relations alongside with theoretical or empirical researches (Oakes, 1986[51]). Moreover, a complete indicator system should attempt to assess all of the relevant components of the educational system with a series of distinct indicators (Ibid.). For example, if policy makers were only to have indicators of how well the system is meeting important goals such as achievement scores, they would lack other information teacher quality, instructional processes, resources and materials needed to judge its overall condition. Without a series of indicators that assesses all the important facets of the schooling processes, we can neither understand the system's overall health nor determine the conditions under which a particular goal is met.

Clarity

As inclusive indicators are also used at the meso and micro level, meaning that they are adopted not only by data experts, but also by school administrators and teachers, they should be as clear as possible. Indeed, Visscher et al. (2000[56]) condemn a "drop and run" strategy, and advocate for clear indicators that are easily understandable by their users. Explanations on how to interpret or calculate the indicators should be provided, entailing the necessity for those indicators to be accessible to a wide range of actors. Such explanations can be found at the micro, meso and macro level in existing set of indicators (Booth and Ainscow, 2002[55]; UNESCO-UIS, 2018[57]).

Collaboration

All the principles mentioned in this section are intertwined. To allow for policy relevance, multiple stakeholders often take part in indicators development and selection. Consulting with different stakeholders, be it country representatives, experts, or practitioners, can strengthen indicators' legitimacy and policy relevance, as well as their use, efforts towards their implementation and further data collection. If indicators lose their relevance for certain actors over time, then collaboration can help target new arising issues (Trewin and Hall, 2010[58]). Collaborating may also decrease the risks of bias and political capture, as Jackson (2004[59]) points out that "the selection and privileging of social indicators are inevitably a

political process informed by interests and values", with countries potentially biased by their own political context and objectives. Thus, collaboration should be considered at different levels, from the international and national ones where countries discuss indicators development to have common reference frameworks, to the sub-national and local ones to consider input from different stakeholders.

Table 2.3. Principles of Inclusive Education Indicators

Principle	Definition
Adaptability	Indicators should be adaptable to specific context
Completeness	Indicators should focus on inputs, processes and outcomes of education
Clarity	What the indicators measure, how and why they measure it should be understandable by all stakeholders
Collaboration	Stakeholders should work together to elaborate indicators

Source: (Oakes, 1986[51]; Visscher et al., 2000[56]; UNESCO, 2020[28])

3. Building indicators of inclusion: designing a framework

3.1. A framework for developing indicators of inclusion

Designing a conceptual framework to guide the development of indicators is a common practice, which can be a valuable tool for building a coherent set of indicators (Brown, 2009[60]). It can help to ensure that the selection of indicators is relevant and balanced and that it aids understanding the links between indicators. The absence of a framework can result in the generation of an eclectic mix of indicators, with no clear rationale for their selection.

For instance, in 2010 the OECD published a development framework for societal progress indicators, which described the steps that should be undertaken for such purpose (Box 3.1).

Box 3.1. A societal progress indicators development framework

Key steps in the development of indicators

In 2010, the OECD published a practical guide for the development of societal progress indicators, which can also concern indicators of inclusion in education. After discussing the initial steps of "defining the issue" for consideration and "identifying partners to carry out the effort and establishing a core group of stakeholders", the guide focuses on some steps to be undertaken when producing an initial set of indicators:

Develop an understanding about why the particular dimension is important for the progress of society

Before selecting an indicator for each progress dimension that one aims to analyse, with the support of different stakeholders, it is important to develop an understanding of **why** that dimension of progress is important for the progress of a society in a certain field. This step is relevant as different parties may interpret the relevance of certain dimensions differently, given their naturally different goals and interests.

Agree on the key facets of progress that the indicator should express

Once a consensus has to be found on why something should be measured, it is then relevant to decide what to measure. Ideally, one would seek to find just one headline indicator to measure progress in each dimension, although this may not always be possible. For instance, when considering inclusion health, one might ideally like to consider measures that summarise the length of people's lives and how healthy they are during their lives.

Identify the conceptually best indicator(s)

Once the key facets of progress have been identified, it is then necessary to consider what indicator – conceptually -could be used to measure them best. Such an indicator may be only theoretical but not exist in practice, for reasons such as lack of data availability or lack of quality data.

Select the best available indicator

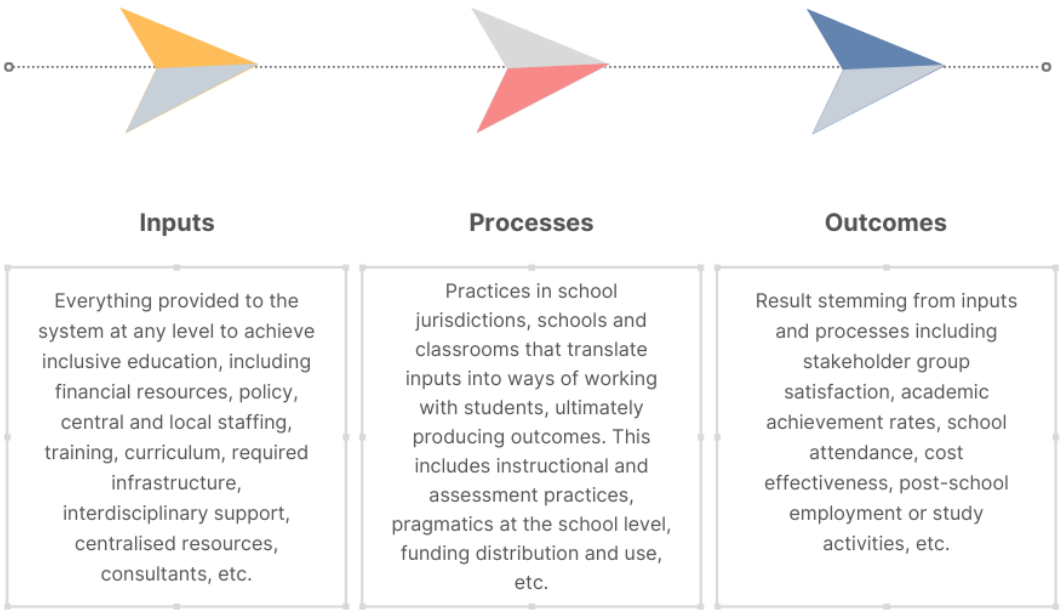
Given that the conceptually ideal indicator is not always available, often one needs to rely on the best possible proxy. When doing so, it is important to reflect on the size of the gap between the conceptual ideal and the best available indicator and to consider the possibility to adopt additional indicators to complement the information available if the gap is significant.

Source: Trewin and Hall (2010[47]), Developing Societal Progress Indicators: A Practical Guide, OECD Statistics Working Papers, OECD Publishing, Paris, https://dx.doi.org/10.1787/5kghzxp6k7g0-en.

Thus, systems aiming to develop a set of indicators of inclusion in education should first design or adopt a framework that can guide the selection of indicators and ensure a coherent and rational set. A large part of the literature applies two frameworks when discussing the development of inclusive education. The first one is the inputs–processes–outcomes model, which can be helpful in identifying which areas of the system might be contributing to or detracting from the ultimate goal of achieving inclusive schooling (Loreman, 2013[61]). This model has been widely adopted in the field of inclusive education, while also being adapted to other areas of education monitoring (OECD, 2021[22]; OECD, 2018[29]; UNESCO, 2020[28]). For instance, Education at Glance has adopted this model and expanded it to include the areas of participation and progression and final impact (OECD, 2021[22]).

As shown in Figure 3.1, **inputs** to a system generally denote all sources provided to a system to achieve a certain outcome. This does not entail exclusively financial resources or legislation, but also staffing of appropriate personnel, infrastructure investments, etc. Education processes then transform these inputs first into outputs and then outcomes. **Processes** refer to all educational activities including procedures at different levels – from state to classroom. This includes not only teaching practices, but also assessments, funds distributions, individual support provided, etc. The interaction between the inputs and the processes produce **outcomes**, which span from academic to socio-emotional and economic well-being.

Figure 3.1. The input-process-outcome model in inclusive education



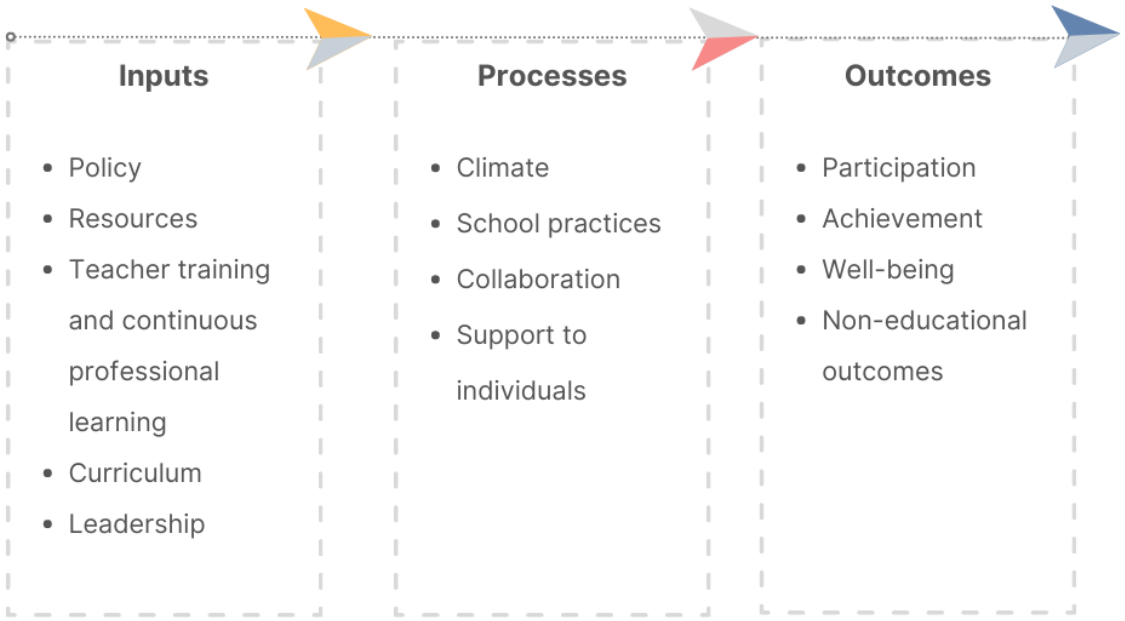
Source: Adapted from (Loreman et al., 2014[2]) based on (Kyriazopoulou and Weber, 2009[40]).

While generally indicators regard mostly educational outcomes, it is rarer than system monitor also inputs and process, which could however be affecting such outcomes. Thus, it is important to monitor indicators that concern inputs and processes in education as well.

The second model, again discussed by Kyriazopoulou and Weber (2009[40]) and adopted by other researchers (Forlin et al., 2015[42]), categorises the data according to three systemic levels: **micro**, **meso**, and **macro**. This approach has been widely accepted by national governments, particularly in Europe (Loreman et al., 2014[2]). The micro level concerns individuals and classrooms, the meso level involves schools and the contexts in which they operate, and the macro level refers to broader systems such as those found in local and national governmental bodies. The premise in the adoption of this model is that the effectiveness of an inclusive system needs to be measured at each of these levels (Loreman et al., 2014[2]). The two models discussed can also be aligned, categorising the themes introduced by the input-process-outcome model by applicable level. The principle of this analysis, introduced by Loreman (2014[2]) and adopted also, for instance, by UNESCO (2020[28]), is that indicators that measure inclusive education in a system need to be viewed at each of these three levels, and along the continuum from inputs to outcomes.

However, various elements of inputs, processes and outcomes overlap at the micro, meso and macro levels. This occurs as some indicators can be adopted both at the national and at the school level. For instance, the climate in classrooms, measured by feelings about going to school have positive experiences at school or feel safe at school (Loreman, 2013[61]), can be taken into monitored not only by countries but also by individual schools. This applies to various other measures of inputs, processes and outcomes. For this reason, this Section of the paper will propose a framework for the development of indicators of inclusions that builds on the input-process-outcome models and identifies key thematic areas that should be monitored under this trifold structure, through indicators of inclusive education systems, as introduced by Figure 3.2. This structure is based on Loreman's work, (2013[61]) and has been expanded and adapted to include some thematic areas that have gained prominence over the last decade in the debate on inclusive education.

Figure 3.2. An input-process-outcome model for indicators of inclusion



Source: Author's elaboration based on (Loreman et al., 2014[2]) and complemented by (Cerna et al., 2021[5])

3.1.1. Inputs

Indicators of inputs provide information on elements that influence the processes and outcomes of an education system (OECD, 2021[22]). Such elements include policies designed to foster inclusive systems and the resources invested in education, including financial, human (such as teachers and other school staff) or physical resources (such as buildings and infrastructure). They also relate to policy choices relating to the instructional setting of classrooms, pedagogical content and delivery of the curriculum. Finally, they concern elements such as the leadership of the schools and the role of principals in fostering inclusive education settings.

Policy

Well-designed policy can guide practice and provide the structure for educational practices to be legitimised and supported, although policy-practice gaps can exist (Peters, Johnstone and Ferguson, 2005[62]). To support the development of an inclusive system, clear policy for inclusion should be articulated at all levels, from the national to the local level. A failure to clearly articulate the intentions of the policy-makers at any level can result in a confused system and inconsistent inclusive education policy (Loreman, 2013[61]).

It is thus important to monitor the existence of policies in schools that support inclusive efforts, both from the perspective of the education authority and from that of the school administration. Loreman (2013[61]) suggests monitoring various indicators: whether a school-level policy for inclusive education exists, whether it reduces the barriers to learning and supports the participation of all students, and if the teachers and administration are in close agreement on school policies, among others. The reduction of barriers to inclusion can concern different elements that should be addressed by policies to make the school environment inclusive. Barriers can be physical or not, so relevant indicators should concern them both, for instance by monitoring if school buildings are physically accessible to all people, or if schools are providing information to all students and families concerning the school, its programmes, etc. (Booth and Ainscow, 2002[55]). An example of such indicators can be if "information about the school is made accessible to all, irrespective of home language or impairment, for example, translated, Brailled, taped, or in large print when necessary" (Ibid.). This could lead to a reflection for the school itself, considering its specific population and evaluating whether they are tending to different needs.

Resources

It is generally acknowledged that appropriate amount of resources are necessary to ensure inclusion. Appropriate funds are required to guarantee support, materials, and to invest in infrastructure. The SDGs, for instance, present information on the "education expenditure per student by level of education and source of funding" as a reference for the degree of equity in the initial allocation of sources of an education system (UNESCO, 2020[28]). Similarly, Education at a Glance monitors the levels of expenditure per student on educational institutions (OECD, 2021[22]). Yet, the levels of financing are not per se a measure of the inclusivity of a system, if the distribution of these funds and other systems input are not equally monitored. For instance, to verify whether a system distributes funds equitably and with an inclusive approach, it can be useful to monitor whether this distribution targets disadvantaged schools[3], or if on the contrary schools with a more disadvantaged population report a lack of funds and resources. In 41 PISA-participating countries and economies in 2018, indeed, principals of disadvantaged schools were

[3] Advantaged and disadvantaged schools are defined in terms of the socio-economic profile of schools. All schools in each PISA-participating education system are ranked according to their average PISA index of economic, social and cultural status (ESCS) and then divided into four groups with approximately an equal number of students (quarters). Schools in the bottom quarter are referred to as "socio-economically disadvantaged schools"; and schools in the top quarter are referred to as "socio-economically advantaged schools (OECD, 2019[9]).

more likely than principals of advantaged schools to report that their school's capacity to provide instruction was hindered by a lack or inadequacy of educational material and physical infrastructure (OECD, 2019[9]).

Alternatively, for instance, resourcing indicators can concern how the education budget is spent. Among the indicators developed for the Pacific Island for a disability-inclusive model, the authors one on the "percentage of education budget spent on implementation of disability-inclusive education plan at the local level" (Forlin et al., 2015[42]). This concept could also be applied to an eventual use of the funds to make infrastructures accessible, earmarking of funds for necessary materials to improve the accessibility for students with SEN or non-native speakers, etc. For instance, UNESCO collected information on the percentage of schools with adapted infrastructure and materials for students with SEN (2016-2018) for several countries (UNESCO, 2020[28]).

Equal access to non-financial resources also has an important role in fostering an inclusive school environment. Considering, for instance, disadvantaged groups with specific needs, schools can monitor whether students from a lower socio-economic background are provided with free school breakfasts or lunches (whether targeted to them or available more generally) (Downes, Nairz-Wirth and Rusinaitė, 2017[63]). This can also apply to provision of textbooks and other learning resources for students in need, or free transport schools for those who live far away (Ibid.).

Teacher training and continuous professional learning

An important element in the development of inclusive education settings relate to hiring procedures of teaching staff, and whether they can ensure applicants' knowledge of, experience with, and willingness to implement best practices for inclusive education. Indeed, teacher training and sense of self-efficacy, in particular in relation to diverse students, is an important element for effective inclusive education (Brussino, 2021[64]). Thus, indicators can also relate to monitoring the effectiveness of teaching and learning support, whether they exist in the system and are being used (Loreman, 2013[61]).

A first key element is monitoring teachers' preparation and knowledge in the area of inclusive education. For instance, systems can refer to some goals set by the SDGs and monitored through the OECD's Teaching and Learning International Survey (TALIS), such as professional development, teacher certification and highest educational attainment to monitor the knowledge of their teachers. Highest educational attainment, for instance, can be considered as a proxy for qualification (OECD, 2020[65]), and can be adopted to the qualification of teachers in all OECD countries.

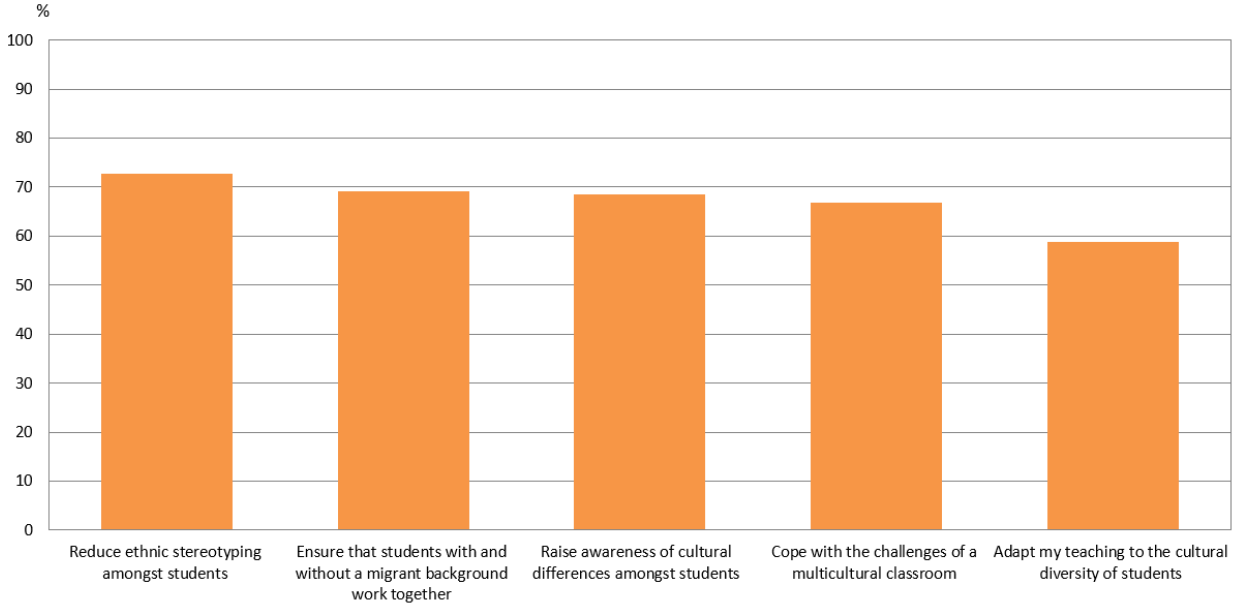
Given the important role of their preparation, monitoring staff professional learning activities can also have an impact on inclusivity of the school. For instance, education systems should be monitoring whether staff professional development activities respond to students' diverse needs. For instance, TALIS monitors lower secondary teachers' participation or need for professional development. Among others, they cover areas particularly relevant for inclusion: teaching students with special education needs, teaching in a multicultural or multilingual setting, communicating with people from different cultures or countries, and approaches to individualised learning (OECD, 2019[66]). Such indicators can be adopted at the macro level to monitor the overall progress of the system, but also broken down at the school level as a means to evaluate the learning needs of the teaching staff.

Information on teachers' preparation can be complemented by keeping track of teachers' opinions on their own knowledge and ability to relate to diverse needs. This can be done by monitoring whether teachers indicate that adequate training opportunities are available and whether they participate in professional development activities related to inclusion (Loreman, 2013[61]). Similarly, monitoring the feelings of self-efficacy with respect to inclusive teaching methods can provide relevant information on the needs of the teaching staff. Self-efficacy can be defined as "the teachers' belief in their capability to organise and carry out actions required to successfully carry out specific teaching task and engage in a particular context" (European Agency for Development in Special Needs Education, 2011[54]; Lancaster, 2014[67]). While there is no global consensus on its measurement, the OECD's Teaching and Learning International Survey

(TALIS) contains information on teachers' beliefs and questions on their ability to teach in a multicultural setting, which as shown in Figure 3.3 can be composed of different aspects (OECD, 2019[66]). These can concern their self-perceived ability to reduce stereotypes, ensuring collaboration between groups of students, and adapting their teaching.

Figure 3.3. Teachers' self-efficacy in teaching multicultural classes

Percentage of lower secondary teachers who feel they can do the following "quite a bit" or "a lot" in teaching a culturally diverse class1 (OECD average 31)



Note: 1 The sample is restricted to teachers reporting that they have already taught a class with students from different cultures. Values are ranked in descending order of the percentage of teachers reporting that they feel they can do the following "quite a bit" or "a lot" in teaching a culturally diverse class.
Source: OECD, TALIS 2018 Database, Table I.3.38.

TALIS questions concerning self-efficacy in their ability to teach in a multicultural setting could be used by teachers as self-evaluation tools that trigger a reflection in their abilities, confidence and need for training (Bartolo, 2011[68]). They could also be expanded to consider other groups of students with diverse needs, such as students with SEN or LGBTQI+ students. These self-evaluation efforts can extend beyond self-efficacy, and concern actions such as staff routinely developing resources to support learning and participation, or learning objectives and activities being modified in light of student competencies (Loreman, 2013[61]). The same principle applies to school leaders and administrators, who can engage in self-evaluations and monitor whether they are knowledgeable in areas related to inclusion and different collaborative models (co-teaching, consultation, combination models and effective use of teacher assistants, etc.).

Curriculum

A further relevant input can be the design of curriculum. An inclusive curriculum implies access to and participation of all students to curricular and co-scholastic activities. It can be monitored through indicators focusing on the design on the curriculum and efforts made to ensure access to the whole curriculum as it is (Jangira and Kapoor, 2017[69]). For instance, it is possible to monitor the inclusivity of the curriculum based on indicators on whether the programme reflects the varied background of students, as to ensure representation of different student groups. It can help students and children be acknowledged and valued,

as their diversity and the different learner needs are taken into account, it caters for marginalised groups and avoids biases (UNESCO International Bureau of Education, 2016[70]). In the United States, the GLSEN has shown that compared to students in school without an LGBTQI-inclusive curriculum, LGBTQI+ students in schools with an LGBTQ+-inclusive curriculum were less likely to feel unsafe because of their sexual orientation. They were also less likely to hear transphobic or homophobic remarks and felt greater belonging to their school community (Kosciw et al., 2018[71]). However, many other factors linked to both the feeling of safety, sense of belonging of LGBTQI+ students and the fact that there is a LGBTQI+ inclusive curriculum, are likely to exist.

It can also be monitored whether teachers adapt the curriculum to provide accommodations and modifications[4] to students that necessitate them (Loreman, 2013[61]). In this regard, it should also be monitored whether there are clear rules and processes established for flexible adaptations of the existing curricula and the offering of any individual plans (such as an Individualised Education Plan).

Leadership

Principals can provide key inputs in the development of an inclusive ethos in schools. Indeed, leadership in schools can impact the environment of a school and influence teachers' behaviours. For instance, values held by school principals and actions taken for supporting students and staff some of the indicators discussed in this specific area (Cushing, 2009[72]).

As teachers can engage in self-evaluations concerning their efficacy with diverse students, school leaders and administrators can also engage in self-evaluations and monitor whether they are knowledgeable in areas related to inclusion and different collaborative models (co-teaching, consultation, combination models and effective use of teacher assistants, etc.). It is also relevant to measure principals' attitudes toward the inclusion of certain groups of students - such as students with disabilities, immigrant students, etc. - into the mainstream education, as well as their attitudes toward inclusive instructional practices (Avissar, Reiter and Leyser, 2003[73]).

3.1.2. Processes

Climate

School processes are composed of different elements that contribute to the inclusivity of the setting, climate being a prominent one. In terms of climate, inclusion can be monitored both in relation to actions implemented in the school to foster an inclusive climate and in terms of views and attitudes of teachers, students and principals.

First, it is possible to adopt indicators for schools to evaluate whether they action an inclusive climate. For instance, schools can adopt yes/no indicators for elements such as "A whole school anti-bullying policy is implemented in your school". Or, to prevent discriminatory bullying, they can consider questions such as "input from ethnically or culturally diverse students into bullying prevention and anti-prejudice materials, activities and goals is included in your school" or "cultural identities of sizeable minority groups are clearly visible in physical environment in your school" (Downes, Nairz-Wirth and Rusinaitė, 2017[63]). Active

[4] Accommodations concern *how* students learn, while modifications rather involve *what* students learn. Accommodations are intended to help students that need them learn the same information as other students, through changes to the structures and the environment that provide support (e.g. extra time on tests, providing breaks, allowing the use of a calculator, etc.). Modifications can involve a structural change in the children's curricula, which can mean learning different material, getting graded or assessed using a different standard than other students, or being excused from particular projects (Mezzanotte, 2020[166]).

involvement in the creation of an inclusive school climate is also key, and can be monitored in relation to school leaders, staff and students (The New Brunswick Department of Education, 2020[74]).

Secondly, the climate of a classroom can be monitored considering whether students express positive feelings about going to school, have positive experiences at school or feel safe at school (Loreman, 2013[61]). Feelings of safety are often also monitored in regards to diverse student groups, as for instance LGBTQI+ students in the "National School Climate Survey" (United States) (Kosciw et al., 2020[75]). This survey asks if students feel "unsafe in school because of personal characteristics, such as sexual orientation, gender expression, or race/ethnicity" and such questions could be adapted at the school and classroom level to monitor anonymously the feelings of the students. A welcoming environment can also be measured by asking students more specific questions concerning their relationship with the school administration: it can be asked, for example, if school personnel communicate with and about students in a manner that demonstrates respect, and if they know who to turn to if they experience bullying (Loreman, 2013[61]). A further element can be whether student views on their learning environment or other areas are taken into account (Loreman, 2013[61]). For instance, the Wake County Public School System in North Carolina (United States) administers a survey to its students each year to measure their perception on their learning experiences. Some of the indicators are "Adults at my school listen to the students" and "I feel like I have a say about what happens to me at school" (Huang, 2018[76]).

To develop a supportive environment in schools, teachers' attitudes play a key role (Navarro-Mateu et al., 2020[77]; de Boer, Pijl and Minnaert, 2011[78]; Vaz et al., 2015[79]). Thus, it is important to understand and monitor teachers' attitudes towards inclusion and diversity. Measures developed in this area include in-service teachers attitudes towards mainstreaming (Monsen and Frederickson, 2004[80]), inclusion (Navarro-Mateu et al., 2020[77]), and towards the education of children with developmental difficulties (Todorovic et al., 2011[81]). Internationally, one of the most common scales in the area of inclusion and diversity is the "the Sentiments, Attitudes, and Concerns about Inclusive Education (SACIE)" (Loreman et al., 2007[82]) (Box 3.2).

Box 3.2. The Sentiments, Attitudes, and Concerns about Inclusive Education (SACIE) scale

The SACIE scale was created in 2007 (Loreman et al., 2007[82]) and revised 4 years later, then subsequently named SACIE-R (Forlin et al., 2011[83]). It is one of the most internationally renowned scales that measure attitudes of teachers with regards to inclusive education (Navarro-Mateu et al., 2020[77]).

This scale consists of 15 items grouped into three factors: sentiments, attitudes and concerns. The first factor, "Sentiments", evaluates feelings of teachers towards interactions or contacts with students with SEN. The second factor, "Attitudes", focuses on acceptance of these students. Finally, the third factor, "Concerns", evaluates worries about inclusive education (Loreman et al., 2007[82]). The questionnaire consists of 15 items on a five-level Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree). **Error! Reference source not found.** shows the different items that compose the three factors.

Table 3.1. SACIE scale's questionnaire elements

	Factor 1 (Sentiments)	Factor 2 (Attitudes)	Factor 3 (Concerns)
I find it difficult to overcome my initial shock when meeting people with severe physical disabilities.	X		
I am afraid to look a person with a disability straight in the face.	X		
I tend to make contacts with people with disabilities brief and I finish them as quickly as possible.	X		
I would feel terrible if I had a disability.	X		
I dread the thought that I could eventually end up with a disability.	X		X
Students who have difficulty expressing their thoughts verbally should be in regular classes.		X	X
Students who frequently fail exams should be in regular classes.	X	X	
Students who need an individualized academic program should be in regular classes.		X	
Students who are inattentive should be in regular classes.	X	X	
Students who require communicative technologies (for example Braille and sign language) should be in regular classes.	X	X	
I am concerned that my workload will increase if I have students with disabilities in my class.	X		X
I am concerned that it will be difficult to give appropriate attention to all students in an inclusive classroom.			X
I am concerned that I will be more stressed if I have students with disabilities in my class.	X	X	X
I am concerned that students with disabilities will not be accepted by the rest of the class.		X	X
I am concerned that I do not have knowledge and skills required to teach students with disabilities.		X	X

Source: Adapted from (Forlin et al., 2011[83]).

The scale has been used with in-service teachers and teachers in training (Loreman et al., 2007[82]; Forlin et al., 2011[83]; Navarro-Mateu et al., 2020[77]; Cansız and Cansız, 2018[84]; Murdaca, Oliva and Costa, 2016[85]), in different contexts, and since it's inception it has been adapted and validated to different countries and cultural contexts, such as Italy (Murdaca, Oliva and Costa, 2016[85]), Portugal

(Santos and César, 2010[86]), Spain (Navarro-Mateu et al., 2020[77]) and Turkey (Cansız and Cansız, 2018[84]).

Another relevant element of climate in schools reported by teachers and principals concern the relation between students and teachers, and among students. TALIS, for instance, reports the percentage of teachers who agree or disagree that teachers and students usually get on well with each other, and the percentage of principals who report that intimidation or bullying occurs in their schools at least weekly. Researchers also refer to the percentage of students who reported being bullied at school (Black-Hawkins, 2010[87]; OECD, 2019[88]; UNESCO, 2020[28]).

PISA also includes indicators on students' sense of belonging and meaning of life (OECD, 2019[89]), which are discussed more in Section 3.1.3 as part of the discussion on well-being. Co-operation amongst students is also deemed important, and indicators have been developed to assess it (European Agency for Development in Special Needs Education, 2011[54]; OECD, 2019[88]).

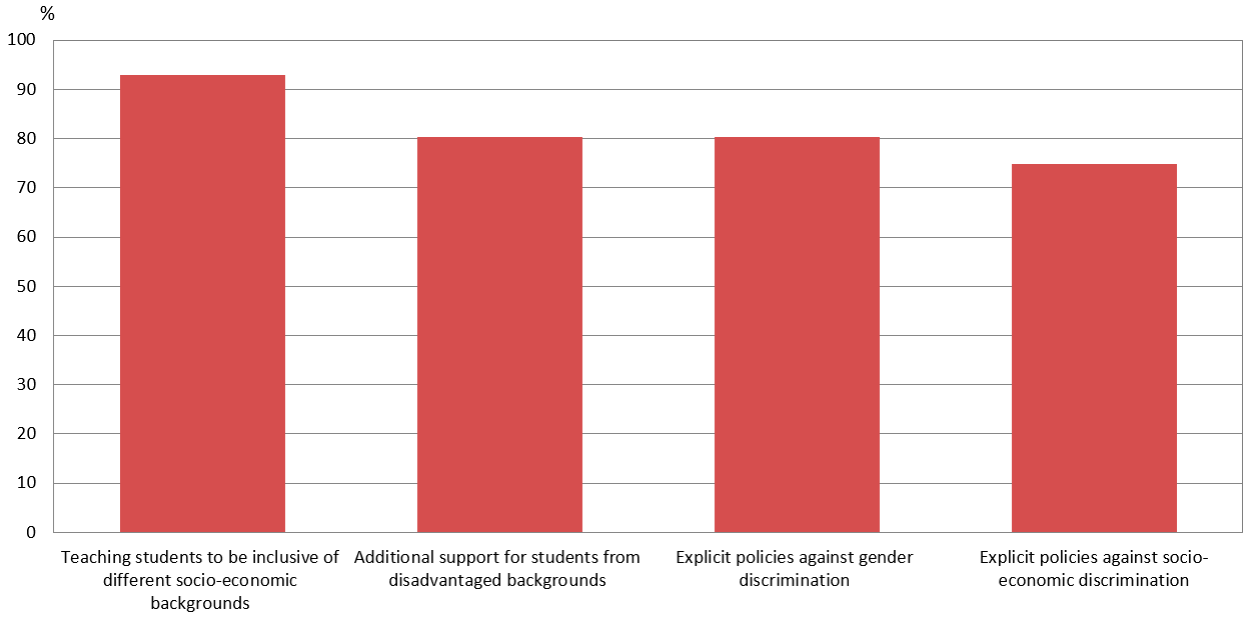
Climate can also concern the existence of links between schools and their communities. This can be measured by the establishment of rules or processes that allow students, parents and communities to participate in educational decision-making, and by whether processes exist that allow parents and students to have a significant influence on the identification of students' needs and necessary support provision. It can also entail the educational authority providing information to parents regarding research-based educational practices and ways they can support their child's learning at home and school (Loreman, 2013[61]).

School practices

Practices also have an important role to play in developing inclusive processes. They can span from the provision of support to students in need, to ensuring responses to various forms of discrimination in schools and classes.

TALIS, for instance, also measures the inclusiveness of school policies and practices by monitoring the percentage of lower secondary principals reporting that in their schools they are teaching students to be inclusive of different socio-economic background, provide them additional support and implement explicit policies against gender or socio-economic discrimination (Figure 3.4) (OECD, 2020[65]).

Figure 3.4. School practices reported by teachers



Values are ranked in descending order of the prevalence of equity-related school practices.
Source: OECD, TALIS 2018 Database, Table I.3.34.

Practices can also be used as a basis for teachers to self-assess how they act in their classrooms. Teachers may ask themselves whether they adopt practices that can foster greater inclusion: is co-operative learning used in the classroom? Is peer tutoring implemented? Are students with diverse needs actively engaged in classroom instructional, social, and assessment activities with the rest of their class? (Loreman, 2013[61]). Presenting them with questions on inclusive practices may help them reflect on which practices could be incorporated in their daily teaching and on which practices, instead, they could abandon to ensure greater inclusiveness.

Similarly, it is possible to monitor options to avoid exclusive measures in schools, such as grade repetition and suspension/expulsion with yes/no indicators such as: “Individualised learning supports as an alternative to grade repetition is available in your school” or “Alternatives to suspension/expulsion are provided in your school” (Downes, Nairz-Wirth and Rusinaitė, 2017[63]).

Collaboration

Collaboration within schools and among different stakeholders is key for the development of inclusive education settings. Collaboration can regard what happens within the class but also more generally the structure within schools and its connections to the community. Indicators can thus focus on whether support for vulnerable students is viewed as responsibility of all the school staff and whether special teachers or teaching assistants have opportunities to consult with other staff about strategies to help them work with all students in their classroom (Loreman, 2013[61]). Beyond the collaboration within the staff, it is also relevant to monitor if there is continuous cooperation and communication between teachers and parents and if all members of the school community are kept informed about school practices (Ibid). Moreover, it is also relevant to check if parents and students themselves have an influence on the identification and description of the student’s needs and necessary support.

Support to individuals

Individual support to students derives from not only the existence of appropriate policies or the inclusion of relevant provisions in curriculum designs, but also from school level processes. For instance, a relevant element concerns whether technical tools are in place for all students according to their needs. These can include, for example, availability and effective use of assistive technologies for students that necessitate them (Loreman, 2013[61]). Schools can monitor whether teachers know how to use assistive technology for individual students who need it, including communication systems and software (Maryland Coalition for Inclusive Education, 2011[90]).

Moreover, in order to ensure that learning opportunities are accessible to all students, it could be monitored whether teachers plan and present information in multiple ways, taking cultural, socio-economic status, and other diversities into account; and provide students with opportunities to demonstrate knowledge and skills in a variety of ways and provide students with multiple opportunities for engagement (The New Brunswick Department of Education, 2020[74]). This can also be done monitoring whether opportunities for enrichment and stretch learning are provided for students of all abilities (Ibid.).

Furthermore, support should be provided not only in school but also during the transition between different schooling levels and between school and the labour market. Thus, countries should monitor whether grade-to-grade, between grade and school-to- school articulation strategies are in place to facilitate the sharing of successful instructional strategies as student transfer to another grade and/or school (Loreman, 2013[61]). The focus should be on all students, but in particular of vulnerable ones that encounter greater challenges in transitioning between grades and into the labour market.

3.1.3. Outcomes

Ainscow (2005[31]) stresses that one of the core elements of inclusion is the presence, participation and achievement of all students. In his understanding, “presence” is concerned with where students are educated, and how reliably and punctually they attend; “participation” relates to the quality of their experiences whilst they are there and, therefore, must incorporate the views of the learners themselves; and “achievement” is about the outcomes of learning across the curriculum, not merely test or examination results. These concepts include an understanding of equitable education, but go beyond it as they consider aspects such as the views of the learners, their learning process and an active participation of students – it is not exclusively about opportunities and outcomes. For instance, the European Agency for Special Needs and Inclusive Education suggests that, in addition to data on attendance and learning, it is important to monitor students’ feelings of belonging, mutual respect and social esteem (Watkins, Ebersold and Lénárt, 2014[91]).

Participation

Attendance has for a long time been one of the focus areas in regards to student participation in education. There is a growing recognition that “being there” is not enough for a students to be included (European Agency for Development in Special Needs Education, 2011[54]; OECD, 2005[92]). To address this shortcoming, the accent has been put on a broader definition of participation, which encompasses more than pure attendance.

Participation is linked to student well-being but cannot be reduced to it. It is both an input to allow for interactions and relationships and an outcome of such interactions. Thanks to participation, children, teachers and parents are involved in the education process (European Agency for Development in Special Needs Education, 2011[54]). This involvement can also foster the efficiency of policies. For example, when students participate in the planning and implementation of interventions at the school-level against bullying, the interventions are often proven to be more efficient (UNESCO, 2020[28]).

Amongst the various components of participation in school, being engaged is a key one (European Agency for Development in Special Needs Education, 2011[54]). To be included, students need to be able to engage with one another and with teachers. Engagement is multi-faceted: it can be behavioural (involvement in class, positive conduct), emotional (identification with teachers and peers) or cognitive (coping strategies). It can be summarised as how students "behave, feel and think" (Fredricks, Blumenfeld and Paris, 2004[93]).

It can be hard to use indicators to measure participation, as it takes part in the plethora of interactions between individuals, groups and their environment. At times, they also overlap with elements linked to inputs and processes of the framework discussed in the previous sections. Yet, indicators at the micro or meso levels provide examples of existing indicators (see Annex Table A.1). Existing indicators regarding participation include indicators such as "Parents are encouraged to participate in decision-making and advocacy activities in the district", "Everybody is made to feel welcome", "Staff collaborate with each other" (Booth and Ainscow, 2002[55]; New Jersey Coalition for Inclusive Education, 2010[32]). Such indicators overlap, as suggested before, with areas such as collaboration that are closely related to an active participation of students and their families in school.

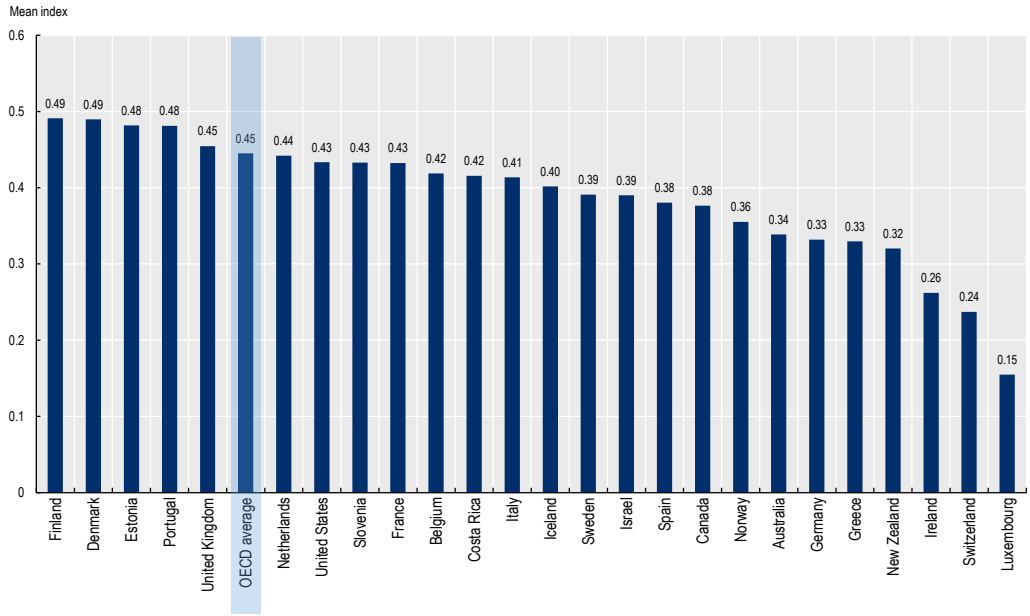
Another relevant to analyse the participation of all students concerns the percentages of students with SEN that attend education in regular classes versus more segregated settings. For instance, the European Agency for Special Needs and Inclusive Education monitors their inclusion with an indicator of "percentage of learners with an official decision of SEN in inclusive settings, based on the enrolled school population" (European Agency for Special Needs and Inclusive Education, 2020[94]). They also monitor indicators on the presence of students with SEN in special classes in mainstream schools, in special schools, and in fully separate educational settings. Loreman (2013[61]) also suggests monitoring whether all classes reflect a naturally occurring proportion of students with SEN. This can be proxied by indicators of the concentration of students with SEN, and it can also apply to other student groups.

A clear barrier to full participation of all students is segregation. Segregation not only discriminates against students, but also reduces their chances to obtain key academic, social and life skills and undermines their future labour outcomes (Mezzanotte, 2022[3]). The isolation of minority groups such as Roma and immigrant students newly enrolled into an education system harms the social integration of these students and weakens the bonds of social cohesion (Council of Europe, 2017[95]). On the other hand, lack of intercultural contacts among majority students can result in lower tolerance for diversity, lack of respect for religious and cultural differences and may exacerbate attitudes of racism, discrimination and exclusion (Ibid.).

Various entities developed indicators of segregation for diverse groups of students. For instance, the levels of segregation depending on immigrant or socio-economic background also provide information on the level of inclusivity on an education system. Indeed, a further risk factor for immigrant students is segregation or isolation in specific schools is at the other end of the spectrum of inclusive education (Mezzanotte, 2022[3]). Isolation means that students with an immigrant background tend to be concentrated in schools where there is a higher than average share of immigrant students. PISA estimates an isolation index that illustrates the extent to which a student with an immigrant background is likely to be surrounded by immigrant students, as shown in Figure 3.5.

Figure 3.5. Segregation of immigrant students across countries

Index of isolation of immigrant students in school



Note: Countries where less than 5% of students had an immigrant background are not represented in the figure. The isolation index measures whether immigrant students are concentrated in some schools. The index is related to the likelihood of a representative immigrant student to be enrolled in schools that enrol not immigrant student. It ranges from 0 to 1, with 0 corresponding to no segregation and 1 to full.
Source: OECD (2018[96]), PISA 2018 Database, Table II.B1.9.11, http://www.oecd.org/pisa/data/2018database/ (accessed on 13 February 2020).

Similarly, PISA also measures the isolation index of advantaged and disadvantaged students (OECD, 2020[65]). The higher the indicator, the less students are likely to attend school with peers for a different socio-economic background.

Indicators that are more specific to groups that are not identified by PISA have been developed by various organisations. For instance, the "Accept Pluralism Research Project" had analysed school segregation for Roma students in Bulgaria, Greece, Hungary, Poland and Romania (Fox and Vidra, 2013[97]). To do so, the project relies on six indicators: civic education (teaching about diversity); desegregation; financial investment; recruitment of minority/immigrant teachers; teacher training programmes and promoting a culture of anti-racism and non-discrimination. These indicators are measured on a low-to-high scale that represents contextual judgments by experts based on an interpretation of qualitative research and the available knowledge about the respective society in this respect[5]. The United States also report an indicator of racial/ethnic concentration in public schools, which can proxy a measure of segregation in American schools (de Brey et al., 2019[98]). This indicator measures the proportion of minority students who attended public schools with a majority-minority enrolment, or schools in which minority students comprise at least 75 percent of total enrolment. This indicator increases as the concentration of minority students is increasing (Ibid.).

[5] The 'scores' cannot be understood and should not be presented without the explanations provided by the researchers.

Achievement

The possibility for all students to achieve their potential, without suffering from barriers related to their personal characteristics, is an important pillar in an inclusive education system, and it is an element shared with the Strength through Diversity project's understanding of equity in education. Accordingly, existing indicators on equity in regards to academic outcomes could be adopted for an analysis of inclusion in education. Academic achievement should not be measured exclusively in terms of scores and performance, but also as progression through education and completion of higher levels of education, among others.

For what concerns achievement, at the international level PISA, TIMMS and PIRLS[6], for instance, compare student performance across different countries. PISA allows to disaggregate its results based on students' gender, socio-economic and immigrant backgrounds, providing an indication on whether students' achievement is impacted by these personal characteristics. Considering a group-specific measure, the level of language proficiency of immigrant students can also provide an insight on the outcomes of an education system and its ability to support the achievement of this population. Mezzanotte (2022[3]) provided an in-depth overview of divergence in academic outcomes for all the six groups of diverse students considered by the OECD Strength through Diversity project.

This section introduces some of the main areas related to achievement and inclusive education, namely: graduation rates, university enrolment and completion, participation in early-childhood education and care, truancy, repetition and dropouts.

Graduation rates

Graduation rates represent the estimated percentage of people who graduated from secondary education over their lifetime (OECD, 2022[99]). Data can be broken down by diverse groups, which can show gaps in educational outcomes. For instance, there exist significant gaps in graduation rates of students with and without SEN (Brussino, 2020[14]). In the United States indicators of graduation are available for a variety of groups, and they show that Black and Hispanic students, English Learners, students with a lower socio-economic background and students with disabilities all have graduation rates below their white, Asian, and socio-economically advantaged peers (Atwell et al., 2021[100]).

University enrolment and completion rates

Disparities in enrolment and completion of tertiary education between groups of students vary. The Washington Group on Disability Statistics, for instance, reports available country data on university completion rates disaggregated by disability status and gender (Washington Group on Disability Statistics, 2018[101]). Most EU and OECD countries also report disparities in tertiary enrolment by gender, showing a trend in favour of women having on average higher tertiary educational attainment (Eurostat, 2018[102]; OECD, 2021[22]). Education at a Glance, for instance, monitors the enrolment rates of 15-19, 20-24 and 25-29 year-olds by gender and level of education. Australia focuses, among other student groups, on Indigenous students and reports their university participation and completion (Mahuteau et al., 2015[103]).

Participation in early-childhood education and care (ECEC)

Research suggests that children who do not have access to ECEC are often those with diverse needs, e.g. children with special education needs, children from disadvantaged backgrounds, or children from ethnic or cultural minorities (OECD, 2006[104]). Given the large impact that participation in ECEC can have

[6] The Trends in International Mathematics and Science Study (TIMSS) and The Progress in International Reading Literacy Study (PIRLS) re international assessments that monitor trends in student achievement in mathematics, science, and reading.

on children's subsequent outcomes, various countries monitor the attendance for diverse student groups. The OECD reports data on participation rates for students from a lower socio-economic background. Some countries also focus specifically on some groups relevant for their countries. The OECD reports data, for instance, on an indicator on participation rates in early childhood education and care by income of the families (OECD, 2021[105]). Australia monitors indicators of preschool enrolment and preschool attendance by jurisdiction for Indigenous children, as these students generally have lower attendance rates (Commonwealth of Australia, 2018[106]). Australia also monitors the intersection between these indicators and the remoteness of the children, as geographical location can be an additional barrier to their participation. Another group that generally has a low rate of pre-school attendance are Roma children. While the attendance of ECEC seems to have slightly increased for this group, it remains far behind, and the EU Agency for Fundamental Rights (FRA) reports this indicator for European countries (European Union Agency for Fundamental Rights, 2018[107]).

Truancy rates

Although definitions of truancy differ, the term is often used as a concept of unexcused, unauthorised and persistent absences of students from school (Gentle-Genitty et al., 2014[108]; Kearney, 2008[109]). It is a widespread problem in many countries with significant consequences for the students, because low attendance can result in poor school performance, higher dropout rates, lower productivity and higher rates of criminal activity (Maynard et al., 2012[110]). Given these consequences, many policy makers perceive truancy as a problem which needs immediate policy response and intervention, and aim to monitor and reduce chronic absenteeism (Maynard et al., 2017[111]). For instance, the United Kingdom monitors persistent absence[7] of students by ethnicity and the findings show that Roma students have almost 50% of persistent absence rates (Department for Education, 2020[112]). In the United States, students from different ethnic backgrounds have higher chronic absenteeism[8] rates compared to their peers, while students with SEN are 1.5 times more likely to be chronically absent from school (U.S. Department of Education, 2019[113]). Australia also monitors the proportion of students attending 90% or more of the time by remoteness, along with Indigenous students attendance (Commonwealth of Australia, 2018[114]).

Repetition rates & Dropout rates

Information on dropout rates from school is available for different groups of students. Data from Eurostat (2018[102]) monitors it by gender, showing that women have lower rates of early leaving from education and training. The FRA (2016, p. 27[115]) reports indicators on the dropout of Roma students. Australia reports the school dropout and year 12-completion rates for Indigenous students (Mahuteau et al., 2015[103]; European Social Survey, 2016[116]). Generally, students with SEN tend to have higher dropout rates from school than their peers.

Well-being

The OECD Strength through Diversity project defines well-being as "a dynamic state characterised by students experiencing the ability and opportunity to fulfil their personal and social goals. It encompasses multiple dimensions of students' lives, including cognitive, psychological, physical, social and material. It can be measured through subjective and objective indicators of competencies, perceptions, expectations and life conditions" (Borgonovi and Pál, 2016[117]). This definition puts an emphasis on the multidimensionality of students' well-being, which encompasses both students' states and outcomes, as well developmental processes that may act as risk or protective factors shaping well-being in later life

[7] The persistent absence rate is the total number of pupil enrolments who were persistently absent, as a percentage of all pupil enrolments. A pupil is persistently absent if they miss 10% or more of their possible sessions at school.

[8] Students are defined as chronically absent if they miss at least 15 days of school in a year.

(Cerna et al., 2021[5]). The project considers different dimensions of student well-being: academic, psychological, physical, emotional and material. To the end of this Section of the paper, academic outcomes are tackled in the above sections on participation and segregation, and academic achievement. This section, instead, provides an overview of psychological and emotional well-being, and to a smaller degree on physical (health-related) well-being. Material well-being is tackled in the discussion on non-educational outcomes. Student well-being is a key preoccupation of an inclusive education system. It is, indeed, a major component on discussions and research on inclusive education and a recurrent theme in the set of indicators developed in the literature (UNESCO, 2017[118]; Booth and Ainscow, 2002[55]; OECD, 2019[88]). Countries and organisations have shown a growing interest into their citizens' well-being, including that of school populations over time. There are multiple reasons to monitor and foster student well-being. Firstly, children's well-being is important in itself, as children are human being with rights (OECD, 2018[119]). Secondarily, a greater well-being is positively associated with students' academic performance, which can in turn improve the human capital of individuals in the long run (UNESCO, 2020[28]).

PISA measures well-being on three levels: the individual, the school environment and the out-of-school environment levels (OECD, 2019[88]). Indicators for the first two levels in particular can be adopted also as inclusion indicators.

The "self" level

The individual or "self" level encompasses the individual perceptions and feelings of the students and their psychological well-being. The sense of belonging of students, their life satisfaction and meaning in life, career expectations, fear of failure, feelings and growth mindset are all indicators of well-being that are relevant for, and can be used in, the analysis and planning of inclusive education (Booth and Ainscow, 2002[55]; European Agency for Development in Special Needs Education, 2011[54]; OECD, 2019[88]). PISA is one of the main sources of indicators in this area on the international scene. For instance, it defines students' life satisfaction and meaning in life, student's feelings, students' self-efficacy and fear of failure as the psychological dimension of well-being. The cognitive dimension of well-being is measured by the growth mindset of students (OECD, 2019[88]).

Students' health can be monitored, for instance, thanks to indicators collected by the Health Behaviour in School-Aged Children (HBSC) survey, which collects key indicators on young people's well-being, health behaviours and their social context (World Health Organization - Regional office for Europe, 2020[120]). It offers indicators on areas such as self-rated health, physical activity and sedentary behaviour, sexual behaviour, injuries, eating behaviours, health complaints, body image, and risk factors such as alcohol, tobacco and cannabis use. Covering 50 countries every 4 years, it allows disaggregating for different groups. Some of these indicators can be thus adopted to evaluate the levels of student well-being, also in relation to schooling. Psychological complaints (nervousness, irritability) and somatic complaints (headaches, backaches) can be defined as non-clinical measures of mental health and are included in the HBSC survey.

Mental health is a major component of students' well-being (OECD, 2018[119]), and it both has an impact on students' education and is affected by their experience in education. New Zealand, for example, monitors students' mental well-being and the rates of suicide and self-harm. Mental health is measured as the percentage of young people who experienced high or very high levels of psychological distress at some stage over a four-week period. Self-harm is operationalised as the percentage of young people who have deliberately hurt themselves, seriously thought about, and/or attempted suicide in the last 12 months (The New Zealand Department of the Prime Minister and Cabinet, 2019[121]). In the United States, suicide rates are also monitored in relation to diverse groups of students, which shows how mental disorders affect differently these populations. According to the American Association of University Women (AAUW), rates of attempted suicides among the school-level population were higher among female (9.3%) than male (5.1%) students; higher among white female (7.3%), Black female (12.5%), and Hispanic female (10.5%)

than white male (4.6%), Black male (6.7%), and Hispanic male (5.8%) students, respectively (AAUW, 2020[122]). Australia also implements indicators to monitor the well-being of children, including specific modules on their mental health. Diagnostic modules from the Diagnostic Interview Schedule for Children Version IV (DISC-IV) were used to assess the seven most common mental disorders experienced by children and adolescents[9] (Australian Government, 2015[123]).

Students' health can also be monitored by subjective indicators, such as students' satisfaction of their body image (Ibid.). Students' physical exercise habits are monitored by the PISA assessment, for instance. Physical exercises are associated with better health and less concern over one's body image. Numerous studies have also linked physical exercises to better cognitive performance (Sibley and Etnier, 2003[124]).

Psychological well-being is another major component of well-being. It encompasses people's sense of meaning, purpose and engagement. Yet, its role and nature are not based on a wide consensus in the literature. Still, there is a call for a composite indicator capturing various subjective perceptions, such as perceptions of competence, knowledge and skills, autonomy and relationships (OECD, 2019[125]). PISA allows monitoring students' meaning in life, which is defined as the extent to which 15-year-olds comprehend, make sense of, or find significance in their lives. PISA built an indicator called "index of meaning in life", which combines students' answers - from "strongly disagree" to "strongly agree" - on the following statements: "My life has clear meaning or purpose"; "I have discovered a satisfactory meaning in life"; and "I have a clear sense of what gives meaning to my life". Since 2013, the government of Southern Australia has also been monitoring and reporting indicators on students' happiness, satisfaction with life, worries and resilience under the "Emotional wellbeing" section of its yearly "Wellbeing and Engagement Collection" report (Government of South Australia, 2021[126]).

New Zealand also monitors student well-being, focusing on psychological and socio-emotional aspects. The country monitors whether students feel cared for, safe and secure, along with their ability to establish and maintain positive relationships, respect others' needs and show empathy (The New Zealand Department of the Prime Minister and Cabinet, 2019[121]). These efforts are part of the country's Child and Youth Wellbeing Strategy, which is an effort aimed at directing aligning the government actions in this area to the supportive actions of their communities. The Strategy is described more extensively in the Box 3.3.

[9] These included major depressive disorder, attention-deficit/hyperactivity disorder (ADHD), conduct disorder, and four anxiety disorders. Anxiety is not a single disorder, but a class of disorders, and children and adolescents were assessed for the four anxiety disorders that are most common and cause the greatest distress, namely: social phobia, separation anxiety, generalised anxiety and obsessive-compulsive disorder.

Box 3.3. New Zealand's Child and Youth Wellbeing Strategy

The government of New Zealand, as part of its National Strategy, developed The Child and Youth Wellbeing Indicators (the Indicators) as of 2019. The main rationale of developing the Indicators was to monitor the wellbeing of New Zealand's children and youth, while providing a reliable source of information and data. The indicators aimed to complement the already existing knowledge in the field of child and youth wellbeing with additional information collected through diverse and robust sources.

The country identified 36 strengths-based indicators, which are consistent with other government indicators and measurement frameworks, and are applicable to all children and young people. The Indicators are designed to be valid, reliable, precise, measurable, timely and programmatically important, which were also the main criteria the officials took into account in developing the Indicators.

The Indicators collected quantitative data on children's and young people's performance and achievements while building an accountability mechanism for the government's Child and Youth Wellbeing outcomes. The Indicators are categorised into six overarching wellbeing outcomes: i) Loved, safe and nurtured; ii) Have what they need; iii) Happy and healthy; iv) Learning and developing; v) Accepted, respected and connected; and vi) involved and empowered.

Some of the Indicators developed as part of New Zealand's Child and Youth Wellbeing Strategy are:

- Regular school attendance measured as percentage of children and young people who are regularly attending school.
- Participation in early learning measured as percentage of children attending early childhood education for 10 or more hours a week on average at age 3 and at age 4.
- Experience of bullying measured as percentage of young people who experienced bullying in the last 12 months.
- Support for cultural identity measured as percentage of young people who have someone they can ask about their culture, whakapapa or ethnic group.

The government of New Zealand is still working on strategies to improve data collection in measuring the wellbeing of children and young people, and some of the indicators are currently under development. For instance, the government developed a nationwide survey on Youth Health and Wellbeing, namely WhatAboutMe?, to expand the database of the Indicators, whose implementation has been delayed due to the COVID-19 pandemic. Efforts to address the main research limitations are ongoing.

Source: (The New Zealand Department of the Prime Minister and Cabinet, 2019[121]).

The school level

Well-being in relation to schools encompasses the environment in which students evolve and how students perceive their school climate. Some elements discussed already in Section 3.1.2 are particularly relevant, such as those relating to the school climate. Teachers' behaviour, how they perceive and deal with diversity in the classroom, teachers' enthusiasm and support, student cooperation, students' perception of their safety at school and accessibility of schools in terms of infrastructure[10] are all be relevant to evaluate the degree of well-being of students and children at school (Booth and Ainscow, 2002[55]; European Agency for Development in Special Needs Education, 2011[54]; OECD, 2019[88]).

[10] School records could be used to provide such indicators (OECD, 2018[119]).

In PISA, most of those variables are taken into account in the measure of "school climate" (Table 3.2). School climate has an impact on students' academic achievement, health, well-being and health behaviours, as well as on their perceived stress (OECD, 2019[88]).

Table 3.2. School climate in PISA 2018

Students disruptive behaviour	Teaching and learning	School community
• Bullying	• Teacher enthusiasm	• Student cooperation and competition
• Disciplinary climate	• Teachers' support and teaching practices	• Sense of belonging at school
• Student truancy and lateness	• Teacher behaviour and student learning	• Parental involvement in school activities

Source: (OECD, 2019[88])

Another important indicator of well-being at school is students' self-reported bullying (The Children's Society, 2015[127]). Having been bullied is associated with poorer school results and a higher rate of dropping-out, depression, anxiety, and drug and alcohol abuse. Bullying is incorporated in PISA and HBSC but only from the perspective of individuals who are bullied. Bullying other students is also associated with negative health, social and academic behaviours, though the act of bullying is less monitored than the experience of it (OECD, 2018[119]). PISA asks students about various typologies of bullying experiences[11] and collapses them into a general indicator of how often students experienced bullying over the past 12 months.

New Zealand also designed indicators to monitor students' experiences at school for bullying ("Percentage of young people who experienced bullying in the last 12 months") and discrimination ("Percentage of young people who report experiencing discrimination in the previous 12 months"). New Zealand also monitors students' perception of support for their cultural identity ("Percentage of young people who have someone they can ask about their culture, whakapapa or ethnic group") and possibility to speak their own language ("Percentage of young people who can have a conversation in the language of their ethnic or cultural group") (The New Zealand Department of the Prime Minister and Cabinet, 2019[121]). Similarly, Western Australia monitors students' feeling in schools, with indicators concerning their sense of belonging and supportive relationships at school. In addition, Western Australia monitors whether children and young people are supported by safe and healthy relationships outside of school, both at home and in their communities (Western Australia Commissioner for Children and Young People, 2014[128]).

The effects of schoolwork could also be taken into account. On the one hand, feeling pressured or stressed by schoolwork could be associated with a higher probability of smoking and drinking alcohol as well as having headaches and abdominal pain (OECD, 2018[119]). On the other hand, an extreme workload could lead to psychological problems such as feeling sad, tense or nervous as well as a lower overall life satisfaction (Ibid.). Hours spent at school or on homework can be objective indicators of students' well-being and are present in e.g. the PISA questionnaire. The time spent at school and the workload could

[11] PISA asked students how often ("never or almost never", "a few times a year", "a few times a month", "once a week or more") during the 12 months prior to the PISA test they had had the following experiences in school: "Other students left me out of things on purpose" (relational bullying); "Other students made fun of me" (verbal bullying); "I was threatened by other students" (verbal/physical bullying); "Other students took away or destroyed things that belong to me" (physical bullying); "I got hit or pushed around by other students" (physical bullying); and "Other students spread nasty rumours about me" (relational bullying).

be used in a school/life-balance composite index. Subjective indicators are still lacking and could take the form of questions on students' emotions during different lectures or during homework (Ibid.).

As they all give information on students' well-being, some indicators are also influencing one another and have to be grasped in a set of indicators. In schools where students face a high degree of bullying, their sense of belonging is decreased and co-operation is less prevalent than in schools with low levels of bullying (OECD, 2019[88]). Some examples are provided in Annex Table A.2.

Non-educational outcomes

An inclusive education system aims at improving the situation of all children while they are in school, but also to give them the means and the possibilities to succeed after school.

Education is correlated with many long-term outcomes of individuals, such as employment, earnings, poverty levels, physical and mental health, well-being, social-mobility or crime rates. Moreover, the levels and quality of education that individuals receive have an impact on society in terms of increased economic growth, reduced healthcare costs and social spending, and improved social cohesion (Mezzanotte, 2022[3]). Given the lower outcomes in education for diverse students in particular, the various forms of discrimination of these groups in education constitute a cost not only at the individual but also at the societal level (Ibid.). Consequently, there are non-educational outcomes that can be monitored to assess the long-term impact of an inclusive education system (Cerna et al., 2021[5]). While relevant, indicators in these areas are generally not displayed as indicators of inclusive education.

As mentioned, some diverse groups tend to have lower post-education outcomes. Thus, the inclusive angle of this section will be elaborated mostly by taking into account gaps between groups of individuals. This section does not aim at painting a full picture of all possible outcomes related to education, but to give a short introduction of indicators that can be adopted in relation to inclusive education outcomes. More details on the correlations between these indicators and education are provided in Mezzanotte (2022[3]).

Economic and labour market outcomes

Outcomes on the labour market can show how much diverse groups of individuals are included in the economic life of their countries. Labour force participation rates are calculated as the labour force divided by the total working-age population (OECD, 2022[129]), and their disaggregation can flag gaps between groups in a given country. Among OECD countries, the labour force participation rate of women in lower than that of men. The ratio of female to male labour force participation rate, being on average 76% in OECD countries, shows that women's participation is on average 2/3 of male participation rates (World Bank Database, 2020[130]). Unemployment rates are also relevant indicators that can provide information on gaps between groups, such as LGBTQI+ individuals, immigrants, Indigenous people and individuals with disabilities (Mezzanotte, 2022[3]). Differences in earnings[12] and wages, too, can show discriminations in the labour market. These often concern women (OECD, 2022[131]), LGBTQI+ individuals (often gay men in particular, (Drydakis, 2014[132]), and ethnic minorities[13] (United Kingdom Office for National Statistics, 2020[133]). Poverty rates can highlight which groups are most disadvantaged from an economic point of view. Indigenous peoples, for instance, live below the poverty line in higher percentages compared to their peers. LGBTQI+ people are also more at risk of poverty (for example in Serbia, according to the World Bank (2018[134])), along with various ethnic minorities (Freire et al., 2018[135]; European Union Agency for Fundamental Rights, 2014[136]) and immigrants (Canada National Council of Welfare, 2009[137]).

[12] Median and mean earnings are reported by the OECD and ILO.

[13] For instance, the United Kingdom adopts as indicator the ethnicity pay gap, which uses Annual Population Survey data and is calculated as the difference between the median hourly earnings of the reference group (White or White British) and other ethnic groups as a proportion of average hourly earnings of the reference group.

Another indicator that can be relevant is individuals' dependency on social grants, which is a common issue for various diverse groups, as individuals with disabilities (UNICEF, 2015[138]) and immigrants (Brunello and De Paola, 2017[139]).

Health

Health outcomes can also provide an interesting contribution to an analysis of individuals condition in a society, and research has shown that greater education is generally associated with better health status (OECD, 2006[140]). Indeed, research shows that more years of education and higher levels of qualification are associated with a lower incidence of physical and mental disorders. These relationships have been shown to hold across different countries, income ranges, age and ethnic groups (OECD, 2006[140]). Chevalier and Feinstein found causal evidence that education has a protecting effect on mental health, suggesting substantial returns to education in terms of improved mental health (Chevalier and Feinstein, 2006[141]). A first generalised indicator is that of life expectancy at birth, which can be disaggregated by gender (World Bank, 2019[142]), geographic location, socio-economic status and ethnicity (United States Center for Disease Control and Prevention, 2019[143]). Prevalence of mental disorders in different populations and suicide rates can also provide an overview of the mental health condition of citizens. The prevalence of disorder can also be analysed at the disorder level, thus monitoring indicators of depression, post-traumatic stress disorder (PTSD), or anxiety prevalence among different groups. Some of the disorders, indeed, are more frequent in certain populations: for instance, immigrants and refugees are more often at risk of developing PTSD (Bustamante et al., 2017[144]) and depression is more prevalent among women (Albert, 2015[145]).

Other

Greater education is associated with increases in some aspects of social cohesion and political participation (OECD, 2006[140]). Indeed, higher levels of education generally translate into greater civic participation, such as voting and volunteering, which help to build social cohesion (OECD, 2010[146]). Furthermore, there is mounting evidence that social interactions between groups have a positive impact on social cohesion, and particularly, trust. Research on the United States and Canada showed that white people living in diverse neighbourhoods are more trusting when they regularly talk to their neighbours (Stolle, Soroka and Johnston, 2008[147]). This highlights not only the role stereotypes play in eroding social cohesion, but also the importance of social interactions to overcome them (OECD, 2020[148]).

Some indicators such as trust, social behaviour and voting can be considered, among others, indicators of social cohesion (OECD, 2012[149]). Some useful indicators in these areas are the share of people expressing memberships rates of organisations, trust in others, trust in institutions, corruption perception and voter turnout (OECD, 2012[149]; Peace et al., 2005[150]; Jenson, 2010[151]). Other indicators of discrimination can also provide information on the state of social cohesion in a country. Some indicators that can be monitored in regard to racism, for instance, are: data on racism and discriminatory acts; data on racially violent crimes and harassment; number of complaints of discrimination and convictions; data on patterns of discrimination in government; and data on direct and indirect discrimination. Other examples can be indicators of attitudes toward homosexuality (European Social Survey, 2016[116]).

4. Implementing indicators: some considerations

4.1. Potential uses of indicators of inclusion

Indicators can be used to different goals and scopes in education. Developing a strong monitoring and evaluation system can provide evidence on the state of the education system, but also provide inputs to other processes, such as financing or resource distribution. Indicators can also help track the progress of strategies and programmes within an education sector plan (UNESCO IIEP Learning Portal, 2021[152]). They can also benchmark the outcomes of an education system against those of comparable countries or settings.

More specifically, indicators enable educational planners and decision-makers to:

- Monitor changes in different areas, such as student performance, which can alert policy-makers to impending problems.
- Measure the impact of educational reform efforts.
- Account for specific needs in funding schemes or formulae.
- Encourage an education system to improve by comparing it, or parts of it, to other countries or systems.
- Focus attention on educational subsystems that may require improvement, such as particular districts or levels of education.
- Focus attention on key indicators, such as the performance of different groups of students.
- Teachers' development and self-evaluations.
- Schools self-evaluations.

These general uses apply to indicators of inclusion as well, although they are not meant to be an exhaustive list. Monitoring the outcomes of all students, but with a particular focus on diverse and vulnerable students could provide insights to education systems into possible improvements or worsening of students' outcomes. For instance, the latest PISA results, showed that in some countries the achievement gaps between students with lower and higher socio-economic background increased, together with gaps between immigrant and native students and between girls and boys (OECD, 2019[9]). This sort of evidence can flag an issue for countries and education systems to consider and account for when designing policy interventions. Finland, for instance, while being one of the countries with the highest equity in PISA results, identified some raising gaps in equity of outcome in its education system and has been designing a reform, the Right to Learn Programmes, to strengthen its support to students and improve the quality and equity of its education provision (Fitzpatrick, Gottschalk and Mezzanotte, Forthcoming[153]).

Indicators of inclusion can also be adopted to evaluate the impact of educational reforms, and evaluate whether their implementation has fulfilled its goals. Indicators of inclusion could, for instance, highlight whether the goals of a reform have been achieved or if there have been unexpected negative spill-overs.

This effort is being undertaken, for example, by the Province of New Brunswick (Canada), which is currently evaluating its implementation of its Policy 322 for inclusive education.

Indicators can also feed into financing mechanisms of education systems and schools. Measures on the enrolment or presence of vulnerable groups of students are often taken into account in the design of funding mechanisms for educational authorities and schools, based on a flat grant, weighted-student formula or census of total student population per region/municipality. This is often the case, for instance, of students with SEN, immigrant students or socio-economically disadvantaged students. Indeed, targeted funding is often used as a means of supporting immigrant students, e.g. by allocating more resources to this student group or specific geographical area that hosts numerous immigrant students (OECD, 2010[154]). Funding formulae, too, are used to target funding to diverse student groups and often account for the enrolment rates or presence in a certain are of students with SEN, among others (Brussino, 2020[14]).

Moreover, indicators of inclusion can be adopted to encourage development of an education setting by comparing some of its aspects to other relevant settings. For instance, monitoring the relationship between a student performance and its gaps between student groups can show that some systems, manage to find a balance between the two aspects and that performance does not have to happen to the detriment of equitable results. For instance, PISA 2018 reports that countries such as Australia, Canada, Denmark, Estonia, Finland, Japan, Korea, Norway and the United Kingdom, for example, showed average reading performance that was higher than the OECD average while the relationship between socio-economic status and reading performance was weaker than the OECD average (OECD, 2019[9]). This meant that the countries managed to obtain high scores in reading while showing a lower impact of socio-economic status on the reading outcomes. Such measures can help flag a challenge or barrier in the achievement of students from a lower socio-economic background for other countries. To this end, countries can also account for indicators of performance of immigrant students, or participation in tertiary education for students with SEN, or gender gaps in expectations to work in certain fields for 15 year-olds, and numerous other measures that contribute to the creation of an inclusive education system.

Furthermore, indicators of inclusion can be adopted to ensure that the policy-makers' attention falls on educational subsystems that require support or improvement, which could concern for instance specific Regions of a country, or schools in more economically disadvantaged areas. Similarly, results of indicators may highlight the need for a greater focus on specific groups of students, depending on the composition of countries or school populations. For example, mapping the segregation in schools by socio-economic status or immigrant background could push countries to design policies that intervene on these phenomena, such as by rethinking school admission criteria or designing incentives for schools to increase the diversity of its population.

Indicators can also be adopted for teachers' evaluation and development. Indeed, being able to adopt and implement school and classroom indicators of inclusive education, can enable professional development for teachers in a more empirical and guided manner (Lancaster, 2014[39]). For instance, the New Hampshire Department of Education (United States) prepared a self-Rating Survey for teachers and administrators with a set of inclusive education best-practice indicators that can be used as a framework to guide inclusive programming and school improvement (New Hampshire Department of Education, 2020[155]).

Finally, indicators of inclusion, when adopted at the school level, can be used for school self-evaluations processes. One prominent example to this end is the *Index for Inclusion* developed by Ainscow and Booth in 2002, one of the most well-known frameworks of analysis of inclusion to date. The Index has been translated into 35 languages [14] (Centre for Studies on Inclusive Education, 2020[156]), with modifications

[14] Available languages are: Albanian (for Kosovo), Arabic, Basque, Bosnian, Bulgarian, Castilian, Catalan, Chinese (one simplified, one traditional version and one for Hong Kong), Croatian, Czech, Danish, Dutch, Finnish, French (for Quebec), German, Hebrew, Hungarian, Italian, Japanese, Latvian, Maltese, Norwegian, Polish, Portuguese (one

according to the context (Black-Hawkins, 2010[87]), and, among others, has been used in more than 400 British schools (Loreman et al., 2014[157]). One example of its adoption is in Alberta, Canada, where the education authority developed the Indicators of Inclusive Schools, a resource modelled based on the Index, and that offered information and tools that school leaders could use to reflect on how their schools were demonstrating an inclusive approach. The use of the indicators was also meant to help school staff develop strategies and action plans to strengthen inclusive practices and better meet the diverse learning needs of all students (Government of Alberta, 2013[158]). Similarly, the Education bureau of Hong-Kong (China) developed on the basis of the Index a report called "Catering for Student Differences - Indicators for Inclusion". The source is concerned with improving educational attainments through developing a supportive school ethos. It is meant to assist staff in a detailed examination of the possibilities for increasing learning and participation in all aspects of the school for all students. This was a systematic way of school development planning, setting priorities for change, implementing developments and reviewing progress (Education Bureau, 2008[159]).The *Index* of Booth and Ainscow (2002[55]) is composed of multiple indicators that tackle three main dimensions of inclusion in education: creating inclusive cultures, producing inclusive policies and evolving inclusive practices. It is discussed more in detail in Box 4.1.

version for Portugal, one for Brazil), Romanian, Russian, Serbian (for Bosnia), Spanish (one global version, one for South America), Swedish, Vietnamese and Welsh. There is also an Australian adaptation of the Index.

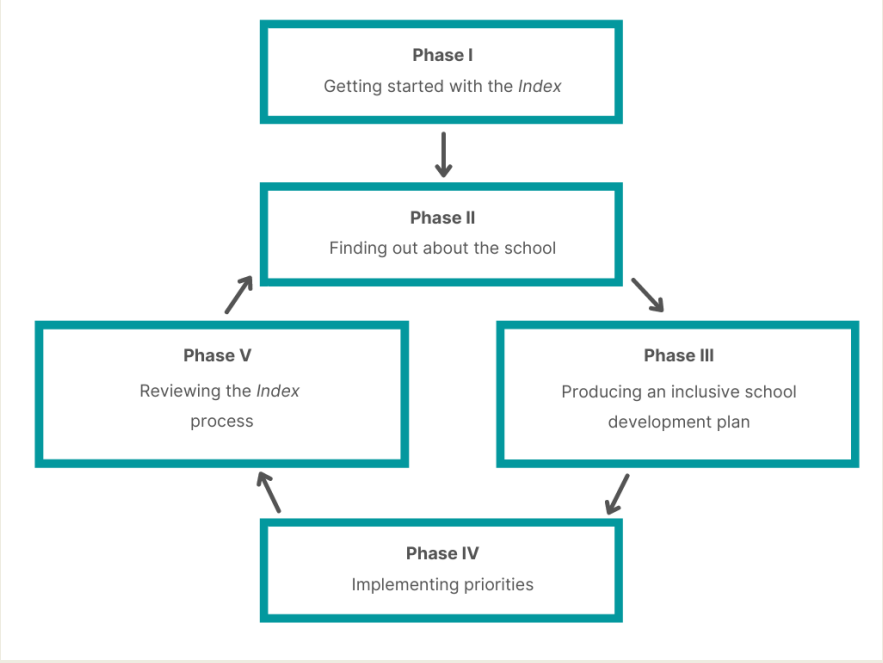
Box 4.1. The Index by Ainscow and Booth

An introduction to a pillar of inclusive education monitoring

Booth and Ainscow developed the Index for Inclusion in 2002, as a resource to support the inclusive development of schools. They developed it as a comprehensive document that can help everyone to find their own next steps in developing their school's setting more inclusively, building on each person knowledge and experience about their own practices.

The Index has been developed within a process that itself can contribute to the development of inclusion. It involves a detailed collaborative self-review which draws on the experience of everyone connected to the school. It is not about assessing anyone's competence but about finding ways to support school and professional development. As shown in Figure 4.1, it is built around 5 phases that align with the school development cycle. It starts from an initial effort to get acquainted with the Index, then proceeds with a focus on the school and exploring students, teachers and school leaders knowledge on inclusion, which leads to the selection of some development priorities; then it focuses on to the production of a plan that includes such priorities; it then requires the school to put them into practice and recording progress; and concludes with an evaluation of the implementation of such priorities and reviewing the work done with the Index, to then go back to the second step of the cycle in the following year.

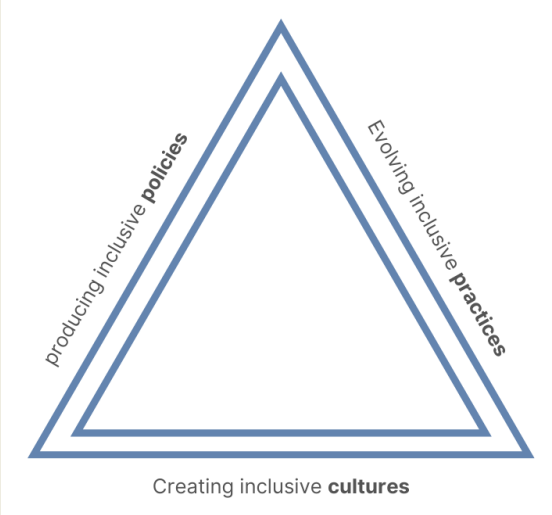
Figure 4.1. The Index process



Source: (Booth and Ainscow, 2002[55])

The Index focuses on three interconnected dimensions of school improvement to explore inclusion and exclusion in schools: creating inclusive cultures, producing inclusive policies and evolving inclusive practices (see Figure 4.2).

Figure 4.2. The three dimensions of the Index



Source: (Booth and Ainscow, 2002[55])

These dimensions have been chosen to develop a process in school of thinking about internal change. Each dimension is divided into two sections to focus attention on what needs to be done to increase learning and participation in a school. Each of these sections contains between 5 and 11 indicators, which are constituted of statements of aspiration against which existing arrangements can be compared, in order to set priorities for the school development. Each represents an important aspect of a school. Specific diversity issues (i.e. gender, ethnicity) are at times reflected over the indicators as a whole, rather than in single indicators.

The Index has also been designed to be adapted and changed by the users: at the end of each set of questions there is an invitation to add questions, which is expected to be added by staff. Schools are expected to respond in different ways and to adjust the materials to their own requirements. However, adaptation should be resisted if it is proposed because an indicator or question poses an uncomfortable challenge.

A final characteristic of the Index is that it aims at evaluating how well a school includes all students, and not only students with SEN: “inclusion is often associated with students who have impairments or students seen as having special education needs. However, in the Index, inclusion is about the education of all children and young people”.

Source: (Booth and Ainscow, 2002[55])

In certain contexts, indicators have been also used to compare the levels of inclusion across different contexts. In Catalonia, for instance, Sabando and colleagues (2019[160]) developed a survey based on an online questionnaire that allowed them to compute the level of inclusion (LI) – ranked as high, medium or low – and compare the results of schools. This also lead them to describe the practices developed across the different dimensions evaluated in their survey according to the LI and the level of complexity of the different schools.

Several of the uses of indicators discussed in this section rely on disaggregation of indicators for different groups of students, as also mentioned throughout the previous sections of the paper. The next paragraphs discuss the role of data disaggregation and the risks that it may entail.

4.2. Disaggregating data

As discussed throughout the paper, disaggregating indicators by group can provide a way to assess the inclusiveness of an education system and highlight existing gaps and barriers. This requires a thoughtful identification of the characteristics that are likely to make children and young people more vulnerable and, therefore, more likely to undermine impartiality and ultimately their inclusion in education (UNESCO-UIS, 2018[7]). Although the determinants of disadvantage vary by context, certain factors have emerged in international frameworks that seek to improve equity in education, which is why the OECD Strength through Diversity Project proposes focusing on the six groups mentioned in Section 2. of the paper. These characteristics are all often associated with resource deprivation or discrimination and have known predictive effects on education experiences and outcomes (Mezzanotte, 2022[3]).

Scarcity of data on some of these dimensions, however, can limit the ability to monitor the condition of certain groups of students in education. While data relative on student gender, immigrant status and socio-economic background is more commonly connected, other characteristics are less often reported. For instance, the OECD reported in 2017 that countries can be divided into three categories, based on whether and how they collect data for ethnic groups, national minorities and Indigenous peoples (Balestra and Fleischer, 2018[161]). The categories are: i. countries that only collect information on immigrant status – mainly older EU member states; ii. countries that gather additional information on race and ethnicity – mostly in Eastern Europe, as well as the United Kingdom and Ireland; iii. countries that collect data on racial/ethnic and Indigenous identity – in the Americas and Oceania. The paper reports that the majority of European countries collect data on diversity based exclusively on immigrant status. In this case, legal frameworks and administrative categories usually do not allow the collection of information other than country of birth (nationality), which is still considered just one possible dimension of ethnicity and insufficient to establish consistent statistics. Only some countries belonging to the European Economic Community (EEC) and the United Kingdom have legal definitions of race and/or ethnicity and allow for disaggregated data in censuses. The way countries define ethnic minorities within their borders and collect related data impacts the availability of disaggregated data and can impair attempts to monitor these groups' condition in education. Data on LGBTQI+ students is also very limited, as it is not generally collected by learning assessments – such as PISA – or school censuses. Data on geographical location is more common in terms of rural/urban gaps and sub-national regions or entities. UNESCO (2018[7]) reports that the coverage of sub-national regions is more common in household-based surveys and school surveys than in school-based student assessments, which often have smaller samples and are limited in the extent of detail they can report.

Moreover, it is fundamental that policy makers reflect on the appropriateness of the measures they intend monitoring, also in terms of their data collection requirements. Indeed, not everything should be measured always by every educational entities: countries can take into account the framework described in Section 3. and select the measures that are more relevant for their context. This selection should also take into account the available data that they system has and consider a cost-benefit analysis of what an additional data collection effort would imply. Indeed, collecting data and treating them can be expensive and time-consuming (OECD, 2019[50]). Designing a framework can help streamline this choice as it can support policy makers in reflecting on what information they already possess and what additional data would complement this information and provide a holistic picture of the inclusiveness of their education systems.

A further challenge in data collection relates to the risk of labelling when categorising students by their characteristics. Indeed, an important question associated with distinguishing specific groups within a

population is whether it will trigger stigmatization or if it will be an asset to measure, understand and explain their exclusion. If the latter is true, then labelling can be a first step towards tackling exclusion through better targeted policies (Ahmed, 2012[162]; Simon and Piché, 2012[163]; Florian and Spratt, 2013[164]).

In the literature, there is an ongoing debate on whether asking students personal information such as gender or ethnicity before a test has an impact or not on their performance. While some studies conclude that there is no link between performance and inquiring on ethnicity and gender, some assert that this link is not only present but also of an important magnitude (Stricker, Rock and Bridgeman, 2015[165]). If it has indeed an impact, then precautions should be taken on how and when to ask students their characteristics if they are part of an assessment test, such as PISA.

Moreover, labels can have negative impacts on students' well-being if they lead to discrimination, for instance by negatively influencing the teachers' perception and expectations from these students (Brussino, 2020[14]; Mezzanotte, 2020[166]). Indeed, if teachers know that some students require specific attention, they could deem that those are potentially lower-achieving students. As a result, they may act in such a way that will indeed make those students lower-achieving (UNESCO, 2020[167]). On the other hand, labels can also help children understand why they face higher barriers to participation and encounter difficulties at school (Brussino, 2020[14]; Mezzanotte, 2020[166]). Indeed, struggling students can be associated with other informal labels such as stupid, lazy or careless even before given a formal label (Riddick, 2000[168]). Having a label can be positive when it helps students make sense of the difficulties they face and even more when it leads to the provision of specific resources *(Ibid).* Moreover, labels lead to visibility and better targeting, just as disaggregation, as they call for data collection (UNESCO, 2020[167]).

Thus, data collection efforts need to take into account the potential risks of labelling the students. Labels can also be used in a way that minimises the risk of negative outcomes. They can be used for data collection at an administrative level, while not being used in the classroom, to avoid the distinction between "normal" and "special" students. This approach is already implemented in Finland, who does not require an expert assessment to decide whether a student may have learning disabilities, and diagnostic labels are not used in school (Brussino, 2020[14]) s. However, disability labels are still used for students with physical impairments and other conditions, but only at the administrative level (Itkonen and Jahnukainen, 2010[169]).

Nevertheless, labels can have positive implications, as their use can lead to a channelling of resources and specialised support, such as individual education plans, adapted curricula and teaching assistance (Brussino, 2020[14]). Labelling students can also bring some explanation and confirmation of their challenges and needs, for them, their teachers and their families (Mezzanotte, 2020[166]). Thus, education systems should consider both the possible positive and negative implications of labelling certain student groups and evaluate which data is worth disaggregating and for which students.

4.3. Considering intersectionality

Diversity is not unidimensional, and individual characteristics can overlap in a person and create new, unique, identities. The pioneer work by Crenshaw (1989[170]) has paved the way for studies interested in how different aspects of one individual's identities can combine and lead to specific discrimination, developing the concept of intersectionality. The OECD Strength through Diversity Project understands intersectionality to mean that a person can embody multiple dimensions of diversity and, as such, be exposed to different types of discrimination and disadvantages that occur as a consequence of those combined identities (Cerna et al., 2021[5]). Intersectionality remains a complex notion that entails substantial challenges in its operationalisation. Moving from theory to practice is still an unresolved question for policy makers who are often unfamiliar with the concept of intersectionality (OECD, 2020[171]).

Yet, some data sources and indicators already allow for certain categories of intersections. The World Inequality Database on Education provides information on the intersection of gender, location and wealth in accordance with the Target 4.5.1. of the SDGs (which aims at providing parity indices for all indicators). Similarly, PISA collects information on students' gender, socio-economic status, immigrant background and geographical location (in terms of rural/urban location). Some countries, too, collect information on a variety of student characteristics that can then be analysed in relation with one another. For instance, in the United States, data is available to study the intersection of special education needs with other student characteristics, such as gender or belonging to a specific ethnic group (Brey et al., 2019[172]). In addition, the Toronto District School Board (TDSB), the largest and one of the most diverse public education systems in Canada, collects data on ethnicity (race), class, gender, and giftedness identification (Parekh, Brown and Robson, 2018[173]; Brown, Parekh and Marmureanu, 2016[174]).

As mentioned before, data on certain groups is less often collected, which implies that there are greater limitations in study certain intersections of student characteristics. Policy makers could consider, when designing data collections for the development of indicators of inclusion, which intersections may be particularly challenging for students to achieve at their best, for instance based on anecdotic evidence from their own country or on quantitative evidence from other countries. Then, they could plan accordingly for relevant information to be collected, which would feed into the decisional choices for data collection discussed in the previous section.

5. Conclusions

The international call for monitoring and developments in the area of inclusive education has led to the initiation of various efforts to design indicators of inclusion, not only at the system level but also at the school level.

Regardless of the level targeted, the indicators of inclusion in schools should be part of a broader framework that defines the different areas that should be monitored. This paper thus introduces a possible framework of inclusion in education that builds on the input-process-outcome model and on the first adaption to inclusive education issues by Loreman (Loreman, 2013[61]). The paper discusses which inputs, processes and outcomes a system should monitor to evaluate its inclusiveness, providing information on the sub-areas to be taken into account: from investments in resources and teacher training, to the development of inclusive climate and school practices, to the measurement of students' well-being and lifelong outcomes, among other areas.

Part of the design process is also planning for possible uses of the indicators of inclusion. The paper shortly mentions the different purposes that the indicators can serve, such as monitoring changes in different areas, such as student performance, which can alert policy-makers to impending problems, measuring the impact of educational reform efforts and encourage an education system to improve by comparing it, or parts of it, to other countries or systems. They can also be used to design financing system that take into account specific needs in funding formulae or grants, for instance when monitoring the performance or wellbeing of different groups of students. Schools can also adopt some of the indicators to self-evaluate themselves and invest in their inclusive development, for instance following the path traced by the Index for Inclusion of Ainscow and Booth (2002[55]), which has been adopted widely by schools around the globe. Teachers can also rely on such measure for their self-evaluation and to be guided in their professional learning in the area of inclusive practices.

Not all indicators, however, can be adopted by all systems and context. They should be, instead, adapted and actualised based on the culture, characteristics and needs of each context. As highlighted in the paper, it is also fundamental to choose carefully what to measure, and to evaluate which data collections are sustainable in terms of cost-effectiveness when developing a new framework of indicators. In fact, systems should aim at selecting a pool of indicators balancing the burdensome of the data collection and the usefulness of the measures. Moreover, when deciding to disaggregate data to monitor the needs and challenges of specific diverse groups of students, they should ponder the risks of labelling such students. Yet, the paper remarks, it is fundamental to disaggregate some indicators to account for the barriers and the needs that some populations may be incurring into in greater number compared to their peers. This concerns in particular individuals, whose characteristics overlap, creating intersectional identities that lead to more complex needs.

In conclusion, this paper aims at offering policy makers and practitioners a model that can guide the development of a framework for indicators of inclusion, supporting efforts to monitor the progresses of their education systems and schools. This model includes example of indicators that can provide ideas and suggestions of measures that can be adopted in the different areas under the input-process-outcome framework. The goal is to concretely guide policy makers in a reflection on the importance of monitoring in the area of inclusive education and accompany them as they engage in such efforts.

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Annexe A.

Table A.1. Examples of indicators on different levels of participation

Aspects of participation	Indicators on participation	Indicators on participatory policies and practices		Indicators on participatory relationships
Presence/Admission	Students not registered within the education system (OECD)	Everybody is made to feel welcome (IFI)	School level	Staff collaborate with each other (IFI)
	Enrolment of children receiving additional resources by educational programme (OECD)			There is a partnership between staff and parents/carers (IFI)
School-related activities / Instruction/Teaching	Time students spend in classroom /Time teachers spend teaching (OECD)	Teachers regularly plan lessons involving materials to supplement the text (e.g. videos, DVDs, web resources, magazine articles, newspapers, etc.) (New Jersey)	Classroom level	Student co-operation and competition (PISA)
	All students take part in activities outside the classroom (IFI)	Bullying is minimised (IFI)		Adults in classrooms share roles, and responsibilities such as the distinction between specialist and the general education classroom teacher are not obvious (Quality Indicators for Inclusive Education, New Jersey)
Planning	Pupils are involved in helping to identify personal learning targets (Self-evaluation of schools, Northern Ireland)	Teaching is planned with learning of all students in mind (IFI)		Students help each other (IFI)
		School-level bodies involve parent representatives in the preparation of the school development plan (Eurydice)		
Assessment	Teachers use an appropriately wide range of assessment for learning strategies, including self-assessment (Self-evaluation of schools, Northern Ireland)	State has written guidelines and examples for the participation of students with disabilities in large-scale assessment (State guidelines, State training materials)		
		Teachers measure student understanding, and refine instruction using a variety of ongoing (formative) assessments (Quality Indicators for Inclusive Education, New Jersey)		
Evaluation / Transition	Educational attainment as successful completion of the various/different levels and/or phases and/or qualifications (OECD)	Written transition procedures and activities are in place to smooth the transition of students from grade to grade and school to school (Quality Indicators for Inclusive Education, New Jersey)		
	Dropout rates (Eurostat, Labour Force Survey)			

Source: (European Agency for Development in Special Needs Education, 2011[54]; New Jersey Coalition for Inclusive Education, 2010[32])

Table A.2. Examples of Well-being Indicators

<table>
<tr><th>Dimensions of well-being</th><th colspan="4">Indicators by aspects of well-being</th></tr>
<tr><td>Quality of life as a whole</td><td colspan="2">Life evaluation and life satisfaction

0-10 life satisfaction scale (PISA)
Candril ladder, used in Gallup Student Poll (evaluative approach, how individuals evaluate their life)</td><td colspan="2">Affect/Emotional Well-being

Index of positive feelings (PISA)
KIDSCREEN-10 (used in HBSC surveys)</td></tr>
<tr><td rowspan="3">Self-related well-being</td><td colspan="2">Health</td><td colspan="2">Education and skill</td></tr>
<tr><td>Objective indicators
Health outcomes and health-related behaviours (HBSC)
Students' physical exercise habits (PISA)</td><td>Subjective indicators
Satisfaction with one's body image
Psychological and somatic complaints (HBSC)</td><td>Objective indicators
Cognitive assessment in PISA</td><td>Subjective indicators
Sense of self-efficacy (PISA)</td></tr>
<tr><td colspan="4">Psychological functioning
Meaning in life (PISA)
Openness to new experiences</td></tr>
<tr><td rowspan="3">School-related well-being</td><td colspan="2">Social connections at school</td><td colspan="2">Schoolwork</td></tr>
<tr><td>Objective indicators
Having been bullied (PISA, HBSC)</td><td>Subjective indicators
Student-student and student -teacher relationships (PISA), support from classmates (HBSC)
Sense of belonging (PISA)</td><td>Objective indicators
Time spent on school-related activities (PISA)</td><td>Subjective indicators
Emotions during specific classes (not available yet)</td></tr>
<tr><td colspan="4">Other potential indicators
Perception of safety at school (could be retrieved from school records of reported incidents and police/safety statistics of the area around the school, aggregate measures of the prevalence of bullying or other disciplinary problems in the school)
Self-reported satisfaction with school infrastructure (not available yet)</td></tr>
</table>

Source: (OECD, 2019[175]; World Health Organization - Regional office for Europe, 2020[120])

Table A.3. The 12 core Pacific INDIE

Aspect of inclusion	Indicator	
Policy and legislation	Existence of legislation and/or policy that clearly articulates right to appropriate education for all children with disabilities.	Percentage of education budget spent on implementation of disability-inclusive education plan at the local level.
Awareness of the rights of children with disabilities	Number of community awareness programs focused on out of school children with disabilities.	
Education, training and professional development	Teacher training curriculum includes a mandatory course on disability-inclusive education.	
Presence and achievement	Number of regular schools enrolling children with disabilities.	Number of children with disabilities completing primary school.
Physical environment and transport	Percentage of schools (primary, lower and upper secondary) with adapted infrastructure and materials for students with disabilities.	
Identification	Education Management Information System (EMIS) records data on children with disabilities	
Early intervention and services	Number of children with disabilities who are provided with relevant assistive devices and technologies.	
Collaboration, shared responsibility and self-advocacy	Formal processes are established to systematically involve parents of children with disabilities in educational programs.	
Curriculum and assessment practice	Number of children with disabilities who sit exams with reasonable accommodations.	
Transition pathways	Number of children with disabilities graduating at an age-appropriate level and transitioning from primary to secondary school.	

Source: (Sharma et al., 2016[176])